

SEQ LIST.txt  
SEQUENCE LISTING

<110> University of Dundee  
Hardie, David  
Boudeau, Jerome  
Alessi, Darlo

<120> Methods for use of an LKB1/STRAD/MO25 Complex

<130> P104299US00GP

<140> 10/565,058  
<141> 2006-01-17

<150> PCT/GB2004/003096  
<151> 2004-07-16

<150> GB 0316725.1  
<151> 2003-07-17

<160> 159

<170> PatentIn version 3.5

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<213> Homo sapiens

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Met Ala Thr Ala Glu Lys Gln Lys His Asp Gly Arg Val Lys Ile Gly  
1 5 10 15

His Tyr Ile Leu Gly Asp Thr Leu Gly Val Gly Thr Phe Gly Lys Val  
20 25 30

Lys Val Gly Lys His Glu Leu Thr Gly His Lys Val Ala Val Lys Ile  
35 40 45

Leu Asn Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Arg  
50 55 60

Arg Glu Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys  
65 70 75 80

Leu Tyr Gln Val Ile Ser Thr Pro Ser Asp Ile Phe Met Val Met Glu  
85 90 95

Tyr Val Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys Asn Gly Arg  
100 105 110

Leu Asp Glu Lys Glu Ser Arg Arg Leu Phe Gln Gln Ile Leu Ser Gly  
115 120 125

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Val Asp Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro  
130 135 140

Glu Asn Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe  
145 150 155 160

Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys  
165 170 175

Gly Ser Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr  
180 185 190

Ala Gly Pro Glu Val Asp Ile Trp Ser Ser Gly Val Ile Leu Tyr Ala  
195 200 205

Leu Leu Cys Gly Thr Leu Pro Phe Asp Asp Asp His Val Pro Thr Leu  
210 215 220

Phe Lys Lys Ile Cys Asp Gly Ile Phe Tyr Thr Pro Gln Tyr Leu Asn  
225 230 235 240

Pro Ser Val Ile Ser Leu Leu Lys His Met Leu Gln Val Asp Pro Met  
245 250 255

Lys Arg Ala Thr Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln  
260 265 270

Asp Leu Pro Lys Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Ser Ser Thr  
275 280 285

Met Ile Asp Asp Glu Ala Leu Lys Glu Val Cys Glu Lys Phe Glu Cys  
290 295 300

Ser Glu Glu Glu Val Leu Ser Cys Leu Tyr Asn Arg Asn His Gln Asp  
305 310 315 320

Pro Leu Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met  
325 330 335

Asn Glu Ala Lys Asp Phe Tyr Leu Ala Thr Ser Pro Pro Asp Ser Phe  
340 345 350

Leu Asp Asp His His Leu Thr Arg Pro His Pro Glu Arg Val Pro Phe  
355 360 365

Leu Val Ala Glu Thr Pro Arg Ala Arg His Thr Leu Asp Glu Leu Asn  
370 375 380

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Pro Gln Lys Ser Lys His Gln Gly Val Arg Lys Ala Lys Trp His Leu  
385 390 395 400

Gly Ile Arg Ser Gln Ser Arg Pro Asn Asp Ile Met Ala Glu Val Cys  
405 410 415

Arg Ala Ile Lys Gln Leu Asp Tyr Glu Trp Lys Val Val Asn Pro Tyr  
420 425 430

Tyr Leu Arg Val Arg Arg Lys Asn Pro Val Thr Ser Thr Tyr Ser Lys  
435 440 445

Met Ser Leu Gln Leu Tyr Gln Val Asp Ser Arg Thr Tyr Leu Leu Asp  
450 455 460

Phe Arg Ser Ile Asp Asp Glu Ile Thr Glu Ala Lys Ser Gly Thr Ala  
465 470 475 480

Thr Pro Gln Arg Ser Gly Ser Val Ser Asn Tyr Arg Ser Cys Gln Arg  
485 490 495

Ser Asp Ser Asp Ala Glu Ala Gln Gly Lys Ser Ser Glu Val Ser Leu  
500 505 510

Thr Ser Ser Val Thr Ser Leu Asp Ser Ser Pro Val Asp Leu Thr Pro  
515 520 525

Arg Pro Gly Ser His Thr Ile Glu Phe Phe Glu Met Cys Ala Asn Leu  
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Ile Lys Ile Leu Ala Gln  
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<213> Homo sapiens

<400> 2

Met Ala Thr Ala Glu Lys Gln Lys His Asp Gly Arg Val Lys Ile Gly  
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His Tyr Ile Leu Gly Asp Thr Leu Gly Val Gly Thr Phe Gly Lys Val  
20 25 30

Lys Val Gly Lys His Glu Leu Thr Gly His Lys Val Ala Val Lys Ile  
35 40 45

SEQ LIST.txt

Leu Asn Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Arg  
 50 55 60  
 Arg Glu Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys  
 65 70 75 80  
 Leu Tyr Gln Val Ile Ser Thr Pro Ser Asp Ile Phe Met Val Met Glu  
 85 90 95  
 Tyr Val Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys Asn Gly Arg  
 100 105 110  
 Leu Asp Glu Lys Glu Ser Arg Arg Leu Phe Gln Gln Ile Leu Ser Gly  
 115 120 125  
 Val Asp Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro  
 130 135 140  
 Glu Asn Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe  
 145 150 155 160  
 Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys  
 165 170 175  
 Gly Ser Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr  
 180 185 190  
 Ala Gly Pro Glu Val Asp Ile Trp Ser Ser Gly Val Ile Leu Tyr Ala  
 195 200 205  
 Leu Leu Cys Gly Thr Leu Pro Phe Asp Asp Asp His Val Pro Thr Leu  
 210 215 220  
 Phe Lys Lys Ile Cys Asp Gly Ile Phe Tyr Thr Pro Gln Tyr Leu Asn  
 225 230 235 240  
 Pro Ser Val Ile Ser Leu Leu Lys His Met Leu Gln Val Asp Pro Met  
 245 250 255  
 Lys Arg Ala Ser Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln  
 260 265 270  
 Asp Leu Pro Lys Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Ser Ser Thr  
 275 280 285  
 Met Ile Asp Asp Glu Ala Leu Lys Glu Val Cys Glu Lys Phe Glu Cys  
 290 295 300

SEQ LIST.txt

Ser Glu Glu Glu Val Leu Ser Cys Leu Tyr Asn Arg Asn His Gln Asp  
305 310 315 320

Pro Leu Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met  
325 330 335

Asn Glu Ala Lys Asp Phe Tyr Leu Ala Thr Ser Pro Pro Asp Ser Phe  
340 345 350

Leu Asp Asp His His Leu Thr Arg Pro His Pro Glu Arg Val Pro Phe  
355 360 365

Leu Val Ala Glu Thr Pro Arg Ala Arg His Thr Leu Asp Glu Leu Asn  
370 375 380

Pro Gln Lys Ser Lys His Gln Gly Val Arg Lys Ala Lys Trp His Leu  
385 390 395 400

Gly Ile Arg Ser Gln Ser Arg Pro Asn Asp Ile Met Ala Glu Val Cys  
405 410 415

Arg Ala Ile Lys Gln Leu Asp Tyr Glu Trp Lys Val Val Asn Pro Tyr  
420 425 430

Tyr Leu Arg Val Arg Arg Lys Asn Pro Val Thr Ser Thr Tyr Ser Lys  
435 440 445

Met Ser Leu Gln Leu Tyr Gln Val Asp Ser Arg Thr Tyr Leu Leu Asp  
450 455 460

Phe Arg Ser Ile Asp Asp Glu Ile Thr Glu Ala Lys Ser Gly Thr Ala  
465 470 475 480

Thr Pro Gln Arg Ser Gly Ser Val Ser Asn Tyr Arg Ser Cys Gln Arg  
485 490 495

Ser Asp Ser Asp Ala Glu Ala Gln Gly Lys Ser Ser Glu Val Ser Leu  
500 505 510

Thr Ser Ser Val Thr Ser Leu Asp Ser Ser Pro Val Asp Leu Thr Pro  
515 520 525

Arg Pro Gly Ser His Thr Ile Glu Phe Phe Glu Met Cys Ala Asn Leu  
530 535 540

Ile Lys Ile Leu Ala Gln

## SEQ LIST.txt

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 <213> Homo sapiens

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Met Ala Thr Ala Glu Lys Gln Lys His Asp Gly Arg Val Lys Ile Gly  
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His Tyr Ile Leu Gly Asp Thr Leu Gly Val Gly Thr Phe Gly Lys Val  
 20 25 30

Lys Val Gly Lys His Glu Leu Thr Gly His Lys Val Ala Val Lys Ile  
 35 40 45

Leu Asn Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Arg  
 50 55 60

Arg Glu Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys  
 65 70 75 80

Leu Tyr Gln Val Ile Ser Thr Pro Ser Asp Ile Phe Met Val Met Glu  
 85 90 95

Tyr Val Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys Asn Gly Arg  
 100 105 110

Leu Asp Glu Lys Glu Ser Arg Arg Leu Phe Gln Gln Ile Leu Ser Gly  
 115 120 125

Val Asp Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro  
 130 135 140

Glu Asn Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe  
 145 150 155 160

Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys  
 165 170 175

Gly Ser Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr  
 180 185 190

Ala Gly Pro Glu Val Asp Ile Trp Ser Ser Gly Val Ile Leu Tyr Ala  
 195 200 205

Leu Leu Cys Gly Thr Leu Pro Phe Asp Asp His Val Pro Thr Leu  
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## SEQ LIST.txt

210  
 225 Phe Lys Lys Ile Cys Asp Gly Ile Phe Tyr Thr Pro Gln Tyr Leu Asn  
 230 235 240  
 215  
 Pro Ser Val Ile Ser Leu Leu Lys His Met Leu Gln Val Asp Pro Met  
 245 250 255  
 Lys Arg Ala Ser Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln  
 260 265 270  
 Asp Leu Pro Lys Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Ser Ser Thr  
 275 280 285  
 Met Ile Asp Asp Glu Ala Leu Lys Glu Val Cys Glu Lys Phe Glu Cys  
 290 295 300  
 Ser Glu Glu Glu Val Leu Ser Cys Leu Tyr Asn Arg Asn His Gln Asp  
 305 310 315 320  
 Pro Leu Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met  
 325 330 335  
 Asn Glu Ala Lys Asp Phe Tyr Leu Ala Thr Ser Pro Pro Asp Ser Phe  
 340 345 350  
 Leu Asp Asp His His Leu Thr Arg Pro His Pro Glu Arg Val Pro Phe  
 355 360 365  
 Leu Val Ala Glu Thr Pro Arg Ala Arg His Thr Leu Asp Glu Leu Asn  
 370 375 380  
 Pro Gln Lys Ser Lys His Gln Gly Val Arg Lys Ala Lys Trp His Leu  
 385 390 395 400  
 Gly Ile Arg Ser Gln Ser Arg Pro Asn Asp Ile Met Ala Glu Val Cys  
 405 410 415  
 Arg Ala Ile Lys Gln Leu Asp Tyr Glu Trp Lys Val Val Asn Pro Tyr  
 420 425 430  
 Tyr Leu Arg Val Arg Arg Lys Asn Pro Val Thr Ser Thr Tyr Ser Lys  
 435 440 445  
 Met Ser Leu Gln Leu Tyr Gln Val Asp Ser Arg Thr Tyr Leu Leu Asp  
 450 455 460

SEQ LIST.txt

Phe Arg Ser Ile Asp Asp Glu Ile Thr Glu Ala Lys Ser Gly Thr Ala  
465 470 475 480

Thr Pro Gln Arg Ser Gly Ser Val Ser Asn Tyr Arg Ser Cys Gln Arg  
485 490 495

Ser Asp Ser Asp Ala Glu Ala Gln Gly Lys Ser Ser Glu Val Ser Leu  
500 505 510

Thr Ser Ser Val Thr Ser Leu Asp Ser Ser Pro Val Asp Leu Thr Pro  
515 520 525

Arg Pro Gly Ser His Thr Ile Glu Phe Phe Glu Met Cys Ala Asn Leu  
530 535 540

Ile Lys Ile Leu Ala Gln  
545 550

<210> 4  
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<213> Homo sapiens

<400> 4

Gly Glu His Gln Leu Thr Gly His Lys Val Ala Val Lys Ile Leu Asn  
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Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Lys Arg Glu  
20 25 30

Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys Leu Tyr  
35 40 45

Gln Val Ile Ser Thr Pro Thr Asp Phe Phe Met Val Met Glu Tyr Val  
50 55 60

Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys His Gly Arg Val Glu  
65 70 75 80

Glu Met Glu Ala Arg Arg Leu Phe Gln Gln Ile Leu Ser Ala Val Asp  
85 90 95

Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro Glu Asn  
100 105 110

Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe Gly Leu  
115 120 125



SEQ LIST.txt

Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly Ser  
 130 135 140

Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr Ala Gly  
 145 150 155 160

Pro Glu Val Asp Ile Trp Ser Cys Gly Val Ile Leu Tyr Ala Leu Leu  
 165 170 175

Cys Gly Thr Leu Pro Phe Asp Asp Glu His Val Pro Thr Leu Phe Lys  
 180 185 190

Lys Ile Arg Gly Gly Val Phe Tyr Ile Pro Glu Tyr Leu Asn Arg Ser  
 195 200 205

Val Ala Thr Leu Leu Met His Met Leu Gln Val Asp Pro Leu Lys Arg  
 210 215 220

Ala Thr Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln Asp Leu  
 225 230 235 240

Pro Ser Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Asp Ala Asn Val Ile  
 245 250 255

Asp Asp Glu Ala Val Lys Glu Val Cys Glu Lys Phe Glu Cys Thr Glu  
 260 265 270

Ser Glu Val Met Asn Ser Leu Tyr Ser Gly Asp Pro Gln Asp Gln Leu  
 275 280 285

Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met Asn Gln  
 290 295 300

Ala Ser Glu Phe Tyr Leu Ala Ser Ser Pro Pro Ser Gly Ser Phe Met  
 305 310 315 320

Asp Asp Ser Ala Met His Ile Pro Pro Gly Leu Lys Pro His Pro Glu  
 325 330 335

Arg Met Pro Pro Leu Ile Ala Asp Ser Pro Lys Ala Arg Cys Pro Leu  
 340 345 350

Asp Ala Leu Asn Thr Thr Lys Pro Lys Ser Leu Ala Val Lys Lys Ala  
 355 360 365

Lys Trp His Leu Gly Ile Arg Ser Gln Ser Lys Pro Tyr Asp Ile Met  
 370 375 380

SEQ LIST.txt

Ala Glu Val Tyr Arg Ala Met Lys Gln Leu Asp Phe Glu Trp Lys Val  
385 390 395 400

Val Asn Ala Tyr His Leu Arg Val Arg Arg Lys Asn Pro Val Thr Gly  
405 410 415

Asn Tyr Val Lys Met Ser Leu Gln Leu Tyr Leu Val Asp Asn Arg Ser  
420 425 430

Tyr Leu Leu Asp Phe Lys Ser Ile Asp Asp Glu Val Val Glu Gln Arg  
435 440 445

Ser Gly Ser Ser Thr Pro Gln Arg Ser Cys Ser Ala Ala Gly Leu His  
450 455 460

Arg Pro Arg Ser Ser Phe Asp Ser Thr Thr Ala Glu Ser His Ser Leu  
465 470 475 480

Ser Gly Ser Leu Thr Gly Ser Leu Thr Gly Ser Thr Leu Ser Ser Val  
485 490 495

Ser Pro Arg Leu Gly Ser His Thr Met Asp Phe Phe Glu Met Cys Ala  
500 505 510

Ser Leu Ile Thr Thr Leu Ala Arg  
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Met Ala Glu Lys Gln Lys His Asp Gly Arg Val Lys Ile Gly His Tyr  
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Val Leu Gly Asp Thr Leu Gly Val Gly Thr Phe Gly Lys Val Lys Ile  
20 25 30

Gly Glu His Gln Leu Thr Gly His Lys Val Ala Val Lys Ile Leu Asn  
35 40 45

Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Lys Arg Glu  
50 55 60

Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys Leu Tyr  
65 70 75 80

SEQ LIST.txt

Gln Val Ile Ser Thr Pro Thr Asp Phe Phe Met Val Met Glu Tyr Val  
85 90

Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys His Gly Arg Val Glu  
100 105 110

Glu Met Glu Ala Arg Arg Leu Phe Gln Gln Ile Leu Ser Ala Val Asp  
115 120 125

Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro Glu Asn  
130 135 140

Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe Gly Leu  
145 150 155 160

Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly Ser  
165 170 175

Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr Ala Gly  
180 185 190

Pro Glu Val Asp Ile Trp Ser Cys Gly Val Ile Leu Tyr Ala Leu Leu  
195 200 205

Cys Gly Thr Leu Pro Phe Asp Asp Glu His Val Pro Thr Leu Phe Lys  
210 215 220

Lys Ile Arg Gly Gly Val Phe Tyr Ile Pro Glu Tyr Leu Asn Arg Ser  
225 230 235 240

Val Ala Thr Leu Leu Met His Met Leu Gln Val Asp Pro Leu Lys Arg  
245 250 255

Ala Thr Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln Asp Leu  
260 265 270

Pro Ser Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Asp Ala Asn Val Ile  
275 280 285

Asp Asp Glu Ala Val Lys Glu Val Cys Glu Lys Phe Glu Cys Thr Glu  
290 295 300

Ser Glu Val Met Asn Ser Leu Tyr Ser Gly Asp Pro Gln Asp Gln Leu  
305 310 315 320

Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met Asn Gln  
325 330 335

SEQ LIST.txt

Ala Ser Glu Phe Tyr Leu Ala Ser Ser Pro Pro Ser Gly Ser Phe Met  
340 345 350

Asp Asp Ser Ala Met His Ile Pro Pro Gly Leu Lys Pro His Pro Glu  
355 360 365

Arg Met Pro Pro Leu Ile Ala Asp Ser Pro Lys Ala Arg Cys Pro Leu  
370 375 380

Asp Ala Leu Asn Thr Thr Lys Pro Lys Ser Leu Ala Val Lys Lys Ala  
385 390 395 400

Lys Trp His Leu Gly Ile Arg Ser Gln Ser Lys Pro Tyr Asp Ile Met  
405 410 415

Ala Glu Val Tyr Arg Ala Met Lys Gln Leu Asp Phe Glu Trp Lys Val  
420 425 430

Val Asn Ala Tyr His Leu Arg Val Arg Arg Lys Asn Pro Val Thr Gly  
435 440 445

Asn Tyr Val Lys Met Ser Leu Gln Leu Tyr Leu Val Asp Asn Arg Ser  
450 455 460

Tyr Leu Leu Asp Phe Lys Ser Ile Asp Asp Glu Val Val Glu Gln Arg  
465 470 475 480

Ser Gly Ser Ser Thr Pro Gln Arg Ser Cys Ser Ala Ala Gly Leu His  
485 490 495

Arg Pro Arg Ser Ser Phe Asp Ser Thr Thr Ala Glu Ser His Ser Leu  
500 505 510

Ser Gly Ser Leu Thr Gly Ser Leu Thr Gly Ser Thr Leu Ser Ser Val  
515 520 525

Ser Pro Arg Leu Gly Ser His Thr Met Asp Phe Phe Glu Met Cys Ala  
530 535 540

Ser Leu Ile Thr Thr Leu Ala Arg  
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SEQ LIST.txt

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20 25 30

Glu Val Ile Tyr Gln Pro Arg Arg Lys Arg Ala Lys Leu Ile Gly Lys  
35 40 45

Tyr Leu Met Gly Asp Leu Leu Gly Glu Gly Ser Tyr Gly Lys Val Lys  
50 55 60

Glu Val Leu Asp Ser Glu Thr Leu Cys Arg Arg Ala Val Lys Ile Leu  
65 70 75 80

Lys Lys Lys Lys Leu Arg Arg Ile Pro Asn Gly Glu Ala Asn Val Lys  
85 90 95

Lys Glu Ile Gln Leu Leu Arg Arg Leu Arg His Lys Asn Val Ile Gln  
100 105 110

Leu Val Asp Val Leu Tyr Asn Glu Glu Lys Gln Lys Met Tyr Met Val  
115 120 125

Met Glu Tyr Cys Val Cys Gly Met Gln Glu Met Leu Asp Ser Val Pro  
130 135 140

Glu Lys Arg Phe Pro Val Cys Gln Ala His Gly Tyr Phe Cys Gln Leu  
145 150 155 160

Ile Asp Gly Leu Glu Tyr Leu His Ser Gln Gly Ile Val His Lys Asp  
165 170 175

Ile Lys Pro Gly Asn Leu Leu Thr Thr Gly Gly Thr Leu Lys Ile  
180 185 190

Ser Asp Leu Gly Val Ala Glu Ala Leu His Pro Phe Ala Ala Asp Asp  
195 200 205

Thr Cys Arg Thr Ser Gln Gly Ser Pro Ala Phe Gln Pro Pro Glu Ile  
210 215 220

Ala Asn Gly Leu Asp Thr Phe Ser Gly Phe Lys Val Asp Ile Trp Ser  
225 230 235 240

Ala Gly Val Thr Leu Tyr Asn Ile Thr Thr Gly Leu Tyr Pro Phe Glu  
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SEQ LIST.txt  
250

245

255

Gly Asp Asn Ile Tyr Lys Leu Phe Glu Asn Ile Gly Lys Gly Ser Tyr  
260 265 270

Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly  
275 280 285

Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg  
290 295 300

Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val  
305 310 315 320

Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr  
325 330 335

Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp Glu Asp  
340 345 350

Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val  
355 360 365

Pro Gly Gln Val Pro Glu Glu Ala Ser His Asn Gly Gln Arg Arg  
370 375 380

Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu  
385 390 395 400

Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys  
405 410 415

Ala Cys Ser Ala Ser Ser Lys Ile Arg Arg Leu Ser Ala Cys Lys Gln  
420 425 430

Gln

<210> 7  
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<212> PRT  
<213> Homo sapiens

<400> 7

Met Glu Val Val Asp Pro Gln Gln Leu Gly Met Phe Thr Glu Gly Glu  
1 5 10 15

Leu Met Ser Val Gly Met Asp Thr Phe Ile His Arg Ile Asp Ser Thr  
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SEQ LIST.txt

Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly  
275 280 285

Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg  
290 295 300

Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val  
305 310 315 320

Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr  
325 330 335

Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp Glu Asp  
340 345 350

Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val  
355 360 365

Pro Gly Gln Val Pro Glu Glu Glu Ala Ser His Asn Gly Gln Arg Arg  
370 375 380

Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu  
385 390 395 400

Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys  
405 410 415

Ala Cys Ser Ala Ser Ser Lys Ile Arg Arg Leu Ser Ala Cys Lys Gln  
420 425 430

Gln

<210> 8  
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<213> Homo sapiens

<400> 8

Met Glu Val Val Asp Pro Gln Gln Leu Gly Met Phe Thr Glu Gly Glu  
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Leu Met Ser Val Gly Met Asp Thr Phe Ile His Arg Ile Asp Ser Thr  
20 25 30

Glu Val Ile Tyr Gln Pro Arg Arg Lys Arg Ala Lys Leu Ile Gly Lys  
35 40 45



SEQ LIST.txt

Tyr Leu Met Gly Asp Leu Leu Gly Glu Gly Ser Tyr Gly Lys Val Lys  
50 55 60

Glu Val Leu Asp Ser Glu Thr Leu Cys Arg Arg Ala Val Lys Ile Leu  
65 70 75 80

Lys Lys Lys Lys Leu Arg Arg Ile Pro Asn Gly Glu Ala Asn Val Lys  
85 90 95

Lys Glu Ile Gln Leu Leu Arg Arg Leu Arg His Lys Asn Val Ile Gln  
100 105 110

Leu Val Asp Val Leu Tyr Asn Glu Glu Lys Gln Lys Met Tyr Met Val  
115 120 125

Met Glu Tyr Cys Val Cys Gly Met Gln Glu Met Leu Asp Ser Val Pro  
130 135 140

Glu Lys Arg Phe Pro Val Cys Gln Ala His Gly Tyr Phe Cys Gln Leu  
145 150 155 160

Ile Asp Gly Leu Glu Tyr Leu His Ser Gln Gly Ile Val His Lys Asp  
165 170 175

Ile Lys Pro Gly Asn Leu Leu Leu Thr Thr Gly Gly Thr Leu Lys Ile  
180 185 190

Ser Asp Leu Gly Val Ala Glu Ala Leu His Pro Phe Ala Ala Asp Asp  
195 200 205

Thr Cys Arg Thr Ser Gln Gly Ser Pro Ala Phe Gln Pro Pro Glu Ile  
210 215 220

Ala Asn Gly Leu Asp Thr Phe Ser Gly Phe Lys Val Asp Ile Trp Ser  
225 230 235 240

Ala Gly Val Thr Leu Tyr Asn Ile Thr Thr Gly Leu Tyr Pro Phe Glu  
245 250 255

Gly Asp Asn Ile Tyr Lys Leu Phe Glu Asn Ile Gly Lys Gly Ser Tyr  
260 265 270

Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly  
275 280 285

Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg  
290 295 300

SEQ LIST.txt

Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val  
305 310 315 320

Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr  
325 330 335

Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp Glu Asp  
340 345 350

Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val  
355 360 365

Pro Gly Gln Val Pro Glu Glu Glu Ala Ser His Asn Gly Gln Arg Arg  
370 375 380

Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu  
385 390 395 400

Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys  
405 410 415

Ala Cys Ser Ala Ser Ser Lys Ile Arg Arg Leu Ser Ala Cys Lys Gln  
420 425 430

Gln

<210> 9  
<211> 431  
<212> PRT  
<213> Homo sapiens

<400> 9

Met Ser Phe Leu Val Ser Lys Pro Glu Arg Ile Arg Arg Trp Val Ser  
1 5 10 15

Glu Lys Phe Ile Val Glu Gly Leu Arg Asp Leu Glu Leu Phe Gly Glu  
20 25 30

Gln Pro Pro Gly Asp Thr Arg Arg Lys Thr Asn Asp Ala Ser Ser Glu  
35 40 45

Ser Ile Ala Ser Phe Ser Lys Gln Glu Val Met Ser Ser Phe Leu Pro  
50 55 60

Glu Gly Gly Cys Tyr Glu Leu Leu Thr Val Ile Gly Lys Gly Phe Glu  
65 70 75 80

SEQ LIST.txt

Asp Leu Met Thr Val<sub>85</sub> Asn Leu Ala Arg Tyr<sub>90</sub> Lys Pro Thr Gly<sub>95</sub> Glu Tyr  
 Val Thr Val Arg<sub>100</sub> Arg Ile Asn Leu Glu<sub>105</sub> Ala Cys Ser Asn Glu<sub>110</sub> Met Val  
 Thr Phe Leu Gln Gly Glu Leu His<sub>120</sub> Val Ser Lys Leu Phe<sub>125</sub> Asn His Pro  
 Asn Ile Val Pro Tyr Arg Ala<sub>135</sub> Thr Phe Ile Ala Asp<sub>140</sub> Asn Glu Leu Trp  
 Val Val Thr Ser Phe Met<sub>150</sub> Ala Tyr Gly Ser Ala<sub>155</sub> Lys Asp Leu Ile Cys<sub>160</sub>  
 Thr His Phe Met<sub>165</sub> Asp Gly Met Asn Glu Leu<sub>170</sub> Ala Ile Ala Tyr Ile<sub>175</sub> Leu  
 Gln Gly Val Leu<sub>180</sub> Lys Ala Leu Asp Tyr<sub>185</sub> Ile His His Met Gly<sub>190</sub> Tyr Val  
 His Arg Ser<sub>195</sub> Val Lys Ala Ser His<sub>200</sub> Ile Leu Ile Ser Val<sub>205</sub> Asp Gly Lys  
 Val Tyr Leu Ser Gly Leu Arg<sub>215</sub> Ser Asn Leu Ser Met<sub>220</sub> Ile Ser His Gly  
 Gln Arg Gln Arg Val Val<sub>230</sub> His Asp Phe Pro Lys<sub>235</sub> Tyr Ser Val Lys Val<sub>240</sub>  
 Leu Pro Trp Leu Ser<sub>245</sub> Pro Glu Val Leu Gln<sub>250</sub> Gln Asn Leu Gln Gly<sub>255</sub> Tyr  
 Asp Ala Lys Ser<sub>260</sub> Asp Ile Tyr Ser Val<sub>265</sub> Gly Ile Thr Ala Cys<sub>270</sub> Glu Leu  
 Ala Asn Gly<sub>275</sub> His Val Pro Phe Lys<sub>280</sub> Asp Met Pro Ala Thr<sub>285</sub> Gln Met Leu  
 Leu Glu Lys Leu Asn Gly Thr<sub>295</sub> Val Pro Cys Leu Leu<sub>300</sub> Asp Thr Ser Thr  
 Ile Pro Ala Glu Glu Leu<sub>310</sub> Thr Met Ser Pro Ser<sub>315</sub> Arg Ser Val Ala Asn<sub>320</sub>  
 Ser Gly Leu Ser Asp<sub>325</sub> Ser Leu Thr Thr Ser<sub>330</sub> Thr Pro Arg Pro Ser<sub>335</sub> Asn

SEQ LIST.txt

Gly Asp Trp Pro Ser His Pro Tyr His Arg Thr Phe Ser Pro His Phe  
340 345 350

His His Phe Val Glu Gln Cys Leu Gln Arg Asn Pro Asp Ala Arg Pro  
355 360 365

Ser Ala Ser Thr Leu Leu Asn His Ser Phe Phe Lys Gln Ile Lys Arg  
370 375 380

Arg Ala Ser Lys Ala Leu Pro Glu Leu Leu Arg Pro Val Thr Pro Ile  
385 390 395 400

Thr Asn Phe Glu Gly Ser Gln Ser Gln Asp His Ser Gly Ile Phe Gly  
405 410 415

Leu Val Thr Asn Leu Glu Glu Leu Glu Val Asp Asp Trp Glu Phe  
420 425 430

<210> 10  
<211> 418  
<212> PRT  
<213> Homo sapiens

<400> 10

Met Ser Leu Leu Asp Cys Phe Cys Thr Ser Arg Thr Gln Val Glu Ser  
1 5 10 15

Leu Arg Pro Glu Lys Gln Ser Glu Thr Ser Ile His Gln Tyr Leu Val  
20 25 30

Asp Glu Pro Thr Leu Ser Trp Ser Arg Pro Ser Thr Arg Ala Ser Glu  
35 40 45

Val Leu Cys Ser Thr Asn Val Ser His Tyr Glu Leu Gln Val Glu Ile  
50 55 60

Gly Arg Gly Phe Asp Asn Leu Thr Ser Val His Leu Ala Arg His Thr  
65 70 75 80

Pro Thr Gly Thr Leu Val Thr Ile Lys Ile Thr Asn Leu Glu Asn Cys  
85 90 95

Asn Glu Glu Arg Leu Lys Ala Leu Gln Lys Ala Val Ile Leu Ser His  
100 105 110

Phe Phe Arg His Pro Asn Ile Thr Thr Tyr Trp Thr Val Phe Thr Val  
115 120 125

SEQ LIST.txt

Gly Ser Trp Leu Trp Val Ile Ser Pro Phe Met Ala Tyr Gly Ser Ala  
130 135 140

Ser Gln Leu Leu Arg Thr Tyr Phe Pro Glu Gly Met Ser Glu Thr Leu  
145 150 155 160

Ile Arg Asn Ile Leu Phe Gly Ala Val Arg Gly Leu Asn Tyr Leu His  
165 170 175

Gln Asn Gly Cys Ile His Arg Ser Ile Lys Ala Ser His Ile Leu Ile  
180 185 190

Ser Gly Asp Gly Leu Val Thr Leu Ser Gly Leu Ser His Leu His Ser  
195 200 205

Leu Val Lys His Gly Gln Arg His Arg Ala Val Tyr Asp Phe Pro Gln  
210 215 220

Phe Ser Thr Ser Val Gln Pro Trp Leu Ser Pro Glu Leu Leu Arg Gln  
225 230 235 240

Asp Leu His Gly Tyr Asn Val Lys Ser Asp Ile Tyr Ser Val Gly Ile  
245 250 255

Thr Ala Cys Glu Leu Ala Ser Gly Gln Val Pro Phe Gln Asp Met His  
260 265 270

Arg Thr Gln Met Leu Leu Gln Lys Leu Lys Gly Pro Pro Tyr Ser Pro  
275 280 285

Leu Asp Ile Ser Ile Phe Pro Gln Ser Glu Ser Arg Met Lys Asn Ser  
290 295 300

Gln Ser Gly Val Asp Ser Gly Ile Gly Glu Ser Val Leu Val Ser Ser  
305 310 315 320

Gly Thr His Thr Val Asn Ser Asp Arg Leu His Thr Pro Ser Ser Lys  
325 330 335

Thr Phe Ser Pro Ala Phe Phe Ser Leu Val Gln Leu Cys Leu Gln Gln  
340 345 350

Asp Pro Glu Lys Arg Pro Ser Ala Ser Ser Leu Leu Ser His Val Phe  
355 360 365

Phe Lys Gln Met Lys Glu Glu Ser Gln Asp Ser Ile Leu Ser Leu Leu  
Page 21

SEQ LIST.txt  
380

370

375

Pro Pro Ala Tyr Asn Lys Pro Ser Ile Ser Leu Pro Pro Val Leu Pro  
385 390 395 400

Trp Thr Glu Pro Glu Cys Asp Phe Pro Asp Glu Lys Asp Ser Tyr Trp  
405 410 415

Glu Phe

<210> 11  
<211> 341  
<212> PRT  
<213> Homo sapiens

<400> 11

Met Pro Phe Pro Phe Gly Lys Ser His Lys Ser Pro Ala Asp Ile Val  
1 5 10 15

Lys Asn Leu Lys Glu Ser Met Ala Val Leu Glu Lys Gln Asp Ile Ser  
20 25 30

Asp Lys Lys Ala Glu Lys Ala Thr Glu Glu Val Ser Lys Asn Leu Val  
35 40 45

Ala Met Lys Glu Ile Leu Tyr Gly Thr Asn Glu Lys Glu Pro Gln Thr  
50 55 60

Glu Ala Val Ala Gln Leu Ala Gln Glu Leu Tyr Asn Ser Gly Leu Leu  
65 70 75 80

Ser Thr Leu Val Ala Asp Leu Gln Leu Ile Asp Phe Glu Gly Lys Lys  
85 90 95

Asp Val Ala Gln Ile Phe Asn Asn Ile Leu Arg Arg Gln Ile Gly Thr  
100 105 110

Arg Thr Pro Thr Val Glu Tyr Ile Cys Thr Gln Gln Asn Ile Leu Phe  
115 120 125

Met Leu Leu Lys Gly Tyr Glu Ser Pro Glu Ile Ala Leu Asn Cys Gly  
130 135 140

Ile Met Leu Arg Glu Cys Ile Arg His Glu Pro Leu Ala Lys Ile Ile  
145 150 155 160

Leu Trp Ser Glu Gln Phe Tyr Asp Phe Phe Arg Tyr Val Glu Met Ser  
Page 22

SEQ LIST.txt  
170

165

175

Thr Phe Asp Ile Ala Ser Asp Ala Phe Ala Thr Phe Lys Asp Leu Leu  
180 185 190

Thr Arg His Lys Leu Leu Ser Ala Glu Phe Leu Glu Gln His Tyr Asp  
195 200 205

Arg Phe Phe Ser Glu Tyr Glu Lys Leu Leu His Ser Glu Asn Tyr Val  
210 215 220

Thr Lys Arg Gln Ser Leu Lys Leu Leu Gly Glu Leu Leu Leu Asp Arg  
225 230 235 240

His Asn Phe Thr Ile Met Thr Lys Tyr Ile Ser Lys Pro Glu Asn Leu  
245 250 255

Lys Leu Met Met Asn Leu Leu Arg Asp Lys Ser Arg Asn Ile Gln Phe  
260 265 270

Glu Ala Phe His Val Phe Lys Val Phe Val Ala Asn Pro Asn Lys Thr  
275 280 285

Gln Pro Ile Leu Asp Ile Leu Leu Lys Asn Gln Ala Lys Leu Ile Glu  
290 295 300

Phe Leu Ser Lys Phe Gln Asn Asp Arg Thr Glu Asp Glu Gln Phe Asn  
305 310 315 320

Asp Glu Lys Thr Tyr Leu Val Lys Gln Ile Arg Asp Leu Lys Arg Pro  
325 330 335

Ala Gln Gln Glu Ala  
340

<210> 12  
<211> 337  
<212> PRT  
<213> Homo sapiens

<400> 12

Met Lys Lys Met Pro Leu Phe Ser Lys Ser His Lys Asn Pro Ala Glu  
1 5 10 15

Ile Val Lys Ile Leu Lys Asp Asn Leu Ala Ile Leu Glu Lys Gln Asp  
20 25 30

Lys Lys Thr Asp Lys Ala Ser Glu Glu Val Ser Lys Ser Leu Gln Ala  
Page 23

SEQ LIST.txt

35 40 45

Met Lys Glu Ile Leu Cys Gly Thr Asn Glu Lys Glu Pro Pro Thr Glu  
50 55 60

Ala Val Ala Gln Leu Ala Gln Glu Leu Tyr Ser Ser Gly Leu Leu Val  
65 70 75 80

Thr Leu Ile Ala Asp Leu Gln Leu Ile Asp Phe Glu Gly Lys Lys Asp  
85 90 95

Val Thr Gln Ile Phe Asn Asn Ile Leu Arg Arg Gln Ile Gly Thr Arg  
100 105 110

Ser Pro Thr Val Glu Tyr Ile Ser Ala His Pro His Ile Leu Phe Met  
115 120 125

Leu Leu Lys Gly Tyr Glu Ala Pro Gln Ile Ala Leu Arg Cys Gly Ile  
130 135 140

Met Leu Arg Glu Cys Ile Arg His Glu Pro Leu Ala Lys Ile Ile Leu  
145 150 155 160

Phe Ser Asn Gln Phe Arg Asp Phe Phe Lys Tyr Val Glu Leu Ser Thr  
165 170 175

Phe Asp Ile Ala Ser Asp Ala Phe Ala Thr Phe Lys Asp Leu Leu Thr  
180 185 190

Arg His Lys Val Leu Val Ala Asp Phe Leu Glu Gln Asn Tyr Asp Thr  
195 200 205

Ile Phe Glu Asp Tyr Glu Lys Leu Leu Gln Ser Glu Asn Tyr Val Thr  
210 215 220

Lys Arg Gln Ser Leu Lys Leu Leu Gly Glu Leu Ile Leu Asp Arg His  
225 230 235 240

Asn Phe Ala Ile Met Thr Lys Tyr Ile Ser Lys Pro Glu Asn Leu Lys  
245 250 255

Leu Met Met Asn Leu Leu Arg Asp Lys Ser Pro Asn Ile Gln Phe Glu  
260 265 270

Ala Phe His Val Phe Lys Val Phe Val Ala Ser Pro His Lys Thr Gln  
275 280 285



SEQ LIST.txt

Pro Ile Val Glu Ile Leu Leu Lys Asn Gln Pro Lys Leu Ile Glu Phe  
290 295 300

Leu Ser Ser Phe Gln Lys Glu Arg Thr Asp Asp Glu Gln Phe Ala Asp  
305 310 315 320

Glu Lys Asn Tyr Leu Ile Lys Gln Ile Arg Asp Leu Lys Lys Thr Ala  
325 330 335

Pro

<210> 13

<211> 338

<212> PRT

<213> Caenorhabditis elegans

<400> 13

Met Leu Lys Pro Leu Phe Gly Lys Ala Asp Lys Thr Pro Ala Asp Val  
1 5 10 15

Val Lys Asn Leu Arg Asp Ala Leu Leu Val Ile Asp Arg His Gly Thr  
20 25 30

Asn Thr Ser Glu Arg Lys Val Glu Lys Ala Ile Glu Glu Thr Ala Lys  
35 40 45

Met Leu Ala Leu Ala Lys Thr Phe Ile Tyr Gly Ser Asp Ala Asn Glu  
50 55 60

Pro Asn Asn Glu Gln Val Thr Gln Leu Ala Gln Glu Val Tyr Asn Ala  
65 70 75 80

Asn Val Leu Pro Met Leu Ile Lys His Leu His Lys Phe Glu Phe Glu  
85 90 95

Cys Lys Lys Asp Val Ala Ser Val Phe Asn Asn Leu Leu Arg Arg Gln  
100 105 110

Ile Gly Thr Arg Ser Pro Thr Val Glu Tyr Leu Ala Ala Arg Pro Glu  
115 120 125

Ile Leu Ile Thr Leu Leu Leu Gly Tyr Glu Gln Pro Asp Ile Ala Leu  
130 135 140

Thr Cys Gly Ser Met Leu Arg Glu Ala Val Arg His Glu His Leu Ala  
145 150 155 160

SEQ LIST.txt

Arg Ile Val Leu Tyr Ser Glu Tyr Phe Gln Arg Phe Phe Val Phe Val  
165 170 175

Gln Ser Asp Val Phe Asp Ile Ala Thr Asp Ala Phe Ser Thr Phe Lys  
180 185 190

Asp Leu Met Thr Lys His Lys Asn Met Cys Ala Glu Tyr Leu Asp Asn  
195 200 205

Asn Tyr Asp Arg Phe Phe Gly Gln Tyr Ser Ala Leu Thr Asn Ser Glu  
210 215 220

Asn Tyr Val Thr Arg Arg Gln Ser Leu Lys Leu Leu Gly Glu Leu Leu  
225 230 235 240

Leu Asp Arg His Asn Phe Ser Thr Met Asn Lys Tyr Ile Thr Ser Pro  
245 250 255

Glu Asn Leu Lys Thr Val Met Glu Leu Leu Arg Asp Lys Arg Arg Asn  
260 265 270

Ile Gln Tyr Glu Ala Phe His Val Phe Lys Ile Phe Val Ala Asn Pro  
275 280 285

Asn Lys Pro Arg Pro Ile Thr Asp Ile Leu Thr Arg Asn Arg Asp Lys  
290 295 300

Leu Val Glu Phe Leu Thr Ala Phe His Asn Asp Arg Thr Asn Asp Glu  
305 310 315 320

Gln Phe Asn Asp Glu Lys Ala Tyr Leu Ile Lys Gln Ile Gln Glu Leu  
325 330 335

Arg Val

<210> 14  
<211> 636  
<212> PRT  
<213> Caenorhabditis elegans

<400> 14

Met Asp Ser Thr Thr Ser Leu Pro Asn Asn Val Leu Leu Lys Lys Ala  
1 5 10 15

Arg Pro Ser Lys Ile Phe Ala Val Thr Ser Ala Asn Ala Leu Asn Val  
20 25 30

SEQ LIST.txt

Lys Thr Glu Pro Val Ile Phe Val Lys Ser Asp Asp Leu Asn Gln Ala  
35 40 45

Asn Thr Pro Leu Thr Gly Ser Lys Phe Gly Thr His Leu Ala Cys Ile  
50 55 60

Arg Thr Ser Cys Leu His Arg Thr Val Asn Ala Ser Asn Tyr Ser Thr  
65 70 75 80

Met Ser Asp Gly Gly Leu Tyr Thr Ser Asp Glu Pro Cys Ser Ser Ala  
85 90 95

Gln Ala Glu Phe Arg Leu Ala Ala His Trp Glu Ser Thr Phe Thr Arg  
100 105 110

Thr Arg Glu Ile His Cys Asp Thr Gly Tyr Ser Ser Gln Ser Pro Pro  
115 120 125

Glu Thr Thr Val Phe Ile Gln Lys Ser Arg Phe Pro Val Ala Glu Lys  
130 135 140

Pro Gly Thr Pro Glu Leu Lys Ser Phe Glu Ser Lys Lys Leu Val Gln  
145 150 155 160

Lys Lys Ser Gly Asn Ala Ser Thr Pro Thr Arg Lys Leu Ala Ser Glu  
165 170 175

Glu Lys Lys Ala Lys Asn Thr Ser Met Gly Gln Thr Pro Ser Lys Leu  
180 185 190

Lys Ser Pro Lys Ala Leu Lys Met Val Lys Lys Glu Asn Glu Pro Ala  
195 200 205

Ile Pro Pro Asn His Phe Glu Gly Lys Val Tyr Gly Tyr Leu Val Asp  
210 215 220

Asp Met Ser Ala Ile Gly Ile Gln Pro Ile Leu Asp Lys Tyr Asn Glu  
225 230 235 240

Asp Pro Glu Lys Phe Phe Lys Arg Phe Asp Ser Lys Pro Trp Phe Arg  
245 250 255

Arg Lys Val Met Pro Leu Leu Phe Gly Lys Ser His Lys Ser Pro Ala  
260 265 270

Asp Val Val Lys Thr Leu Arg Glu Val Leu Thr Ile Leu Asp Lys Leu  
275 280 285

SEQ LIST.txt

Pro Pro Pro Lys Leu Asp Lys Asp Gly Asn Ile Gln Ser Asp Lys Lys  
 290 295 300

Tyr Asp Lys Ala Leu Asp Glu Val Ser Lys Asn Val Ala Met Ile Lys  
 305 310 315 320

Ser Phe Ile Tyr Gly Asn Asp Ser Ala Glu Pro Ser Ser Glu His Val  
 325 330 335

Val Gln Val Ala Gln Leu Ala Gln Glu Val Tyr Asn Ala Asn Ile Leu  
 340 345 350

Pro Met Leu Ile Lys Met Leu Pro Lys Phe Glu Phe Glu Cys Lys Lys  
 355 360 365

Asp Val Gly Gln Ile Phe Asn Asn Leu Leu Arg Arg Gln Ile Gly Thr  
 370 375 380

Arg Ser Pro Thr Val Glu Tyr Leu Gly Ala Arg Pro Glu Ile Leu Ile  
 385 390 395 400

Gln Leu Val Gln Gly Tyr Ser Val Pro Asp Ile Ala Leu Thr Cys Gly  
 405 410 415

Leu Met Leu Arg Glu Ser Ile Arg His Asp His Leu Ala Lys Ile Ile  
 420 425 430

Leu Tyr Ser Asp Val Phe Tyr Thr Phe Phe Leu Tyr Val Gln Ser Glu  
 435 440 445

Val Phe Asp Ile Ser Ser Asp Ala Phe Ser Thr Phe Lys Glu Leu Thr  
 450 455 460

Thr Arg His Lys Ala Ile Ile Ala Glu Phe Leu Asp Ser Asn Tyr Asp  
 465 470 475 480

Thr Phe Phe Ala Gln Tyr Gln Asn Leu Leu Asn Ser Lys Asn Tyr Val  
 485 490 495

Thr Arg Arg Gln Ser Leu Lys Leu Leu Gly Glu Leu Leu Leu Asp Arg  
 500 505 510

His Asn Phe Asn Thr Met Thr Lys Tyr Ile Ser Asn Pro Asp Asn Leu  
 515 520 525

Arg Leu Met Met Glu Leu Leu Arg Asp Lys Ser Arg Asn Ile Gln Tyr  
 530 535 540

SEQ LIST.txt

Glu Ala Phe His Val Phe Lys Val Phe Val Ala Asn Pro Asn Lys Pro  
545 550 555 560

Lys Pro Ile Ser Asp Ile Leu Asn Arg Asn Arg Glu Lys Leu Val Glu  
565 570 575

Phe Leu Ser Glu Phe His Asn Asp Arg Thr Asp Asp Glu Gln Phe Asn  
580 585 590

Asp Glu Lys Ala Tyr Leu Ile Lys Gln Ile Gln Glu Met Lys Ser Ser  
595 600 605

Pro Lys Glu Ala Lys Lys Pro Lys Ser Lys Glu Asp Glu Asn Gln Glu  
610 615 620

Pro Ala Gly Pro Ser Glu Gly Pro Ser Thr Ser Gln  
625 630 635

<210> 15  
<211> 339  
<212> PRT  
<213> Drosophila melanogaster

<400> 15

Met Pro Leu Phe Gly Lys Ser Gln Lys Ser Pro Val Glu Leu Val Lys  
1 5 10 15

Ser Leu Lys Glu Ala Ile Asn Ala Leu Glu Ala Gly Asp Arg Lys Val  
20 25 30

Glu Lys Ala Gln Glu Asp Val Ser Lys Asn Leu Val Ser Ile Lys Asn  
35 40 45

Met Leu Tyr Gly Ser Ser Asp Ala Glu Pro Pro Ala Asp Tyr Val Val  
50 55 60

Ala Gln Leu Ser Gln Glu Leu Tyr Asn Ser Asn Leu Leu Leu Leu  
65 70 75 80

Ile Gln Asn Leu His Arg Ile Asp Phe Glu Gly Lys Lys His Val Ala  
85 90 95

Leu Ile Phe Asn Asn Val Leu Arg Arg Gln Ile Gly Thr Arg Ser Pro  
100 105 110

Thr Val Glu Tyr Ile Cys Thr Lys Pro Glu Ile Leu Phe Thr Leu Met  
115 120 125

SEQ LIST.txt

Ala Gly Tyr Glu Asp Ala His Pro Glu Ile Ala Leu Asn Ser Gly Thr  
130 135 140

Met Leu Arg Glu Cys Ala Arg Tyr Glu Ala Leu Ala Lys Ile Met Leu  
145 150 155 160

His Ser Asp Glu Phe Phe Lys Phe Phe Arg Tyr Val Glu Val Ser Thr  
165 170 175

Phe Asp Ile Ala Ser Asp Ala Phe Ser Thr Phe Lys Glu Leu Leu Thr  
180 185 190

Arg His Lys Leu Leu Cys Ala Glu Phe Leu Asp Ala Asn Tyr Asp Lys  
195 200 205

Phe Phe Ser Gln His Tyr Gln Arg Leu Leu Asn Ser Glu Asn Tyr Val  
210 215 220

Thr Arg Arg Gln Ser Leu Lys Leu Leu Gly Glu Leu Leu Leu Asp Arg  
225 230 235 240

His Asn Phe Thr Val Met Thr Arg Tyr Ile Ser Glu Pro Glu Asn Leu  
245 250 255

Lys Leu Met Met Asn Met Leu Lys Glu Lys Ser Arg Asn Ile Gln Phe  
260 265 270

Glu Ala Phe His Val Phe Lys Val Phe Val Ala Asn Pro Asn Lys Pro  
275 280 285

Lys Pro Ile Leu Asp Ile Leu Leu Arg Asn Gln Thr Lys Leu Val Asp  
290 295 300

Phe Leu Thr Asn Phe His Thr Asp Arg Ser Glu Asp Glu Gln Phe Asn  
305 310 315 320

Asp Glu Lys Ala Tyr Leu Ile Lys Gln Ile Lys Glu Leu Lys Pro Leu  
325 330 335

Pro Glu Ala

<210> 16  
<211> 20  
<212> PRT  
<213> Artificial

SEQ LIST.txt

<220>

<223> LKB1 substrate

<400> 16

Leu Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly  
1 5 10 15

Ser Pro Leu Tyr  
20

<210> 17

<211> 20

<212> PRT

<213> Artificial

<220>

<223> LKB1 substrate

<400> 17

Phe Gly Asn Phe Tyr Lys Ser Gly Glu Pro Leu Ser Thr Trp Cys Gly  
1 5 10 15

Ser Pro Pro Tyr  
20

<210> 18

<211> 20

<212> PRT

<213> Artificial

<220>

<223> LKB1 substrate

<400> 18

Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly  
1 5 10 15

Ser Pro Asn Tyr  
20

<210> 19

<211> 20

<212> PRT

<213> Artificial

<220>

<223> LKB1 substrate

<400> 19

Met Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr Ser Cys Gly  
1 5 10 15

SEQ LIST.txt

Ser Pro His Tyr  
20

<210> 20  
<211> 20  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 20

Phe Ser Asn Glu Phe Thr Val Gly Gly Lys Leu Asp Thr Phe Cys Gly  
1 5 10 15

Ser Pro Pro Tyr  
20

<210> 21  
<211> 20  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 21

Ala Lys Pro Lys Gly Asn Lys Asp Tyr His Leu Gln Thr Cys Cys Gly  
1 5 10 15

Ser Leu Ala Tyr  
20

<210> 22  
<211> 334  
<212> PRT  
<213> Homo sapiens

<400> 22

Met Pro Leu Phe Ser Lys Ser His Lys Asn Pro Ala Glu Ile Val Lys  
1 5 10 15

Ile Leu Lys Asp Asn Leu Ala Ile Leu Glu Lys Gln Asp Lys Lys Thr  
20 25 30

Asp Lys Ala Ser Glu Glu Val Ser Lys Ser Leu Gln Ala Met Lys Glu  
35 40 45

Ile Leu Cys Gly Thr Asn Glu Lys Glu Pro Pro Thr Glu Ala Val Ala  
50 55 60



SEQ LIST.txt

Gln Leu Ala Gln Glu Leu Tyr Ser Ser Gly Leu Leu Val Thr Leu Ile  
65 70 75 80

Ala Asp Leu Gln Leu Ile Asp Phe Glu Gly Lys Lys Asp Val Thr Gln  
85 90 95

Ile Phe Asn Asn Ile Leu Arg Arg Gln Ile Gly Thr Arg Ser Pro Thr  
100 105 110

Val Glu Tyr Ile Ser Ala His Pro His Ile Leu Phe Met Leu Leu Lys  
115 120 125

Gly Tyr Glu Ala Pro Gln Ile Ala Leu Arg Cys Gly Ile Met Leu Arg  
130 135 140

Glu Cys Ile Arg His Glu Pro Leu Ala Lys Ile Ile Leu Phe Ser Asn  
145 150 155 160

Gln Phe Arg Asp Phe Phe Lys Tyr Val Glu Leu Ser Thr Phe Asp Ile  
165 170 175

Ala Ser Asp Ala Phe Ala Thr Phe Lys Asp Leu Leu Thr Arg His Lys  
180 185 190

Val Leu Val Ala Asp Phe Leu Glu Gln Asn Tyr Asp Thr Ile Phe Glu  
195 200 205

Asp Tyr Glu Lys Leu Leu Gln Ser Glu Asn Tyr Val Thr Lys Arg Gln  
210 215 220

Ser Leu Lys Leu Leu Gly Glu Leu Ile Leu Asp Arg His Asn Phe Ala  
225 230 235 240

Ile Met Thr Lys Tyr Ile Ser Lys Pro Glu Asn Leu Lys Leu Met Met  
245 250 255

Asn Leu Leu Arg Asp Lys Ser Pro Asn Ile Gln Phe Glu Ala Phe His  
260 265 270

Val Phe Lys Val Phe Val Ala Ser Pro His Lys Thr Gln Pro Ile Val  
275 280 285

Glu Ile Leu Leu Lys Asn Gln Pro Lys Leu Ile Glu Phe Leu Ser Ser  
290 295 300

Phe Gln Lys Glu Arg Thr Asp Asp Glu Gln Phe Ala Asp Glu Lys Asn  
305 310 315 320

SEQ LIST.txt

Tyr Leu Ile Lys Gln Ile Arg Asp Leu Lys Lys Thr Ala Pro  
325 330

<210> 23  
<211> 23  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 23

Leu Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly  
1 5 10 15

Ser Pro Leu Tyr Arg Arg Arg  
20

<210> 24  
<211> 19  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 24

Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly Ser  
1 5 10 15

Pro Leu Tyr

<210> 25  
<211> 22  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 25

Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly Ser  
1 5 10 15

Pro Leu Tyr Arg Arg Arg  
20

<210> 26  
<211> 20  
<212> PRT  
<213> Artificial

SEQ LIST.txt

<220>  
<223> LKB1 substrate

<400> 26

Leu Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly  
1 5 10 15

Ser Pro Leu Tyr  
20

<210> 27  
<211> 23  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 27

Leu Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly  
1 5 10 15

Ser Pro Leu Tyr Arg Arg Arg  
20

<210> 28  
<211> 20  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 28

Phe Gly Asn Phe Tyr Lys Ser Gly Glu Pro Leu Ser Thr Trp Cys Gly  
1 5 10 15

Ser Pro Pro Tyr  
20

<210> 29  
<211> 23  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 29

Phe Gly Asn Phe Tyr Lys Ser Gly Glu Pro Leu Ser Thr Trp Cys Gly  
1 5 10 15

SEQ LIST.txt

Ser Pro Pro Tyr Arg Arg Arg  
20

<210> 30  
<211> 20  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 30

Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly  
1 5 10 15

Ser Pro Asn Tyr  
20

<210> 31  
<211> 23  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 31

Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly  
1 5 10 15

Ser Pro Asn Tyr Arg Arg Arg  
20

<210> 32  
<211> 20  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 32

Met Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr Ser Cys Gly  
1 5 10 15

Ser Pro His Tyr  
20

<210> 33  
<211> 23  
<212> PRT  
<213> Artificial

SEQ LIST.txt

<220>

<223> LKB1 substrate

<400> 33

Met Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr Ser Cys Gly  
1 5 10 15

Ser Pro His Tyr Arg Arg Arg  
20

<210> 34

<211> 20

<212> PRT

<213> Artificial

<220>

<223> LKB1 substrate

<400> 34

Phe Ser Asn Glu Phe Thr Val Gly Gly Lys Leu Asp Thr Phe Cys Gly  
1 5 10 15

Ser Pro Pro Tyr  
20

<210> 35

<211> 23

<212> PRT

<213> Artificial

<220>

<223> LKB1 substrate

<400> 35

Phe Ser Asn Glu Phe Thr Val Gly Gly Lys Leu Asp Thr Phe Cys Gly  
1 5 10 15

Ser Pro Pro Tyr Arg Arg Arg  
20

<210> 36

<211> 20

<212> PRT

<213> Artificial

<220>

<223> LKB1 substrate

<400> 36

Ala Lys Pro Lys Gly Asn Lys Asp Tyr His Leu Gln Thr Cys Cys Gly  
1 5 10 15

SEQ LIST.txt

Ser Leu Ala Tyr  
20

<210> 37  
<211> 23  
<212> PRT  
<213> Artificial

<220>  
<223> LKB1 substrate

<400> 37

Ala Lys Pro Lys Gly Asn Lys Asp Tyr His Leu Gln Thr Cys Cys Gly  
1 5 10 15

Ser Leu Ala Tyr Arg Arg Arg  
20

<210> 38  
<211> 19  
<212> PRT  
<213> Homo sapiens

<400> 38

Met Val Ala Gly Leu Thr Leu Gly Lys Gly Pro Glu Ser Pro Asp Gly  
1 5 10 15

Asp Val Ser

<210> 39  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 39

Leu Ser Trp Gly Ala Gly Leu Lys Gly Gln Lys Val Ala Thr Ser Tyr  
1 5 10 15

Glu Ser Ser Leu  
20

<210> 40  
<211> 21  
<212> PRT  
<213> Homo sapiens

<400> 40

Met Glu Gly Ala Ala Ala Pro Val Ala Gly Asp Arg Pro Asp Leu Gly  
1 5 10 15

SEQ LIST.txt

Leu Gly Ala Pro Gly  
20

<210> 41  
<211> 21  
<212> PRT  
<213> Homo sapiens

<400> 41

Thr Asp Cys Gln Glu Val Thr Ala Thr Tyr Arg Gln Ala Leu Arg Val  
1 5 10 15

Cys Ser Lys Leu Thr  
20

<210> 42  
<211> 21  
<212> PRT  
<213> Homo sapiens

<400> 42

Met Val Met Ala Asp Gly Pro Arg His Leu Gln Arg Gly Pro Val Arg  
1 5 10 15

Val Gly Phe Tyr Asp  
20

<210> 43  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 43

Met Val Ile Met Ser Glu Phe Ser Ala Asp Pro Ala Gly Gln Gly Gln  
1 5 10 15

Gly Gln Gln Lys  
20

<210> 44  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 44

Gly Asp Cys Glu Met Glu Asp Leu Met Pro Cys Ser Leu Gly Thr Phe  
1 5 10 15

Val Leu Val Gln  
20

SEQ LIST.txt

<210> 45  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 45

Thr Asp Ile Leu Leu Ser Tyr Lys His Pro Glu Val Ser Phe Ser Met  
 1 5 10 15

Glu Gln Ala Gly Val  
 20

<210> 46  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 46

Ser Gly Thr Ser Ile Ala Phe Lys Asn Ile Ala Ser Lys Ile Ala Asn  
 1 5 10 15

Glu Leu Lys Leu  
 20

<210> 47  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 47

Met Ser Ser Arg Thr Val Leu Ala Pro Gly Asn Asp Arg Asn Ser Asp  
 1 5 10 15

Thr His Gly Thr  
 20

<210> 48  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 48

Met Lys Asp Tyr Asp Glu Leu Leu Lys Tyr Tyr Glu Leu His Glu Thr  
 1 5 10 15

Ile Gly Thr Gly  
 20

<210> 49



SEQ LIST.txt

<211> 16  
 <212> PRT  
 <213> Homo sapiens

<400> 49

Cys Thr Ser Pro Pro Asp Ser Phe Leu Asp Asp His His Leu Thr Arg  
 1 5 10 15

<210> 50  
 <211> 14  
 <212> PRT  
 <213> Homo sapiens

<400> 50

Cys Asp Pro Met Lys Arg Ala Thr Ile Lys Asp Ile Arg Glu  
 1 5 10

<210> 51  
 <211> 12  
 <212> PRT  
 <213> Artificial

<220>  
 <223> C-terminal 12 residues STRAD alpha

<400> 51

Asn Leu Glu Glu Leu Glu Val Asp Asp Trp Glu Phe  
 1 5 10

<210> 52  
 <211> 12  
 <212> PRT  
 <213> Artificial

<220>  
 <223> C-terminal 12 residues STRAD alpha, last residue mutated to Ala

<400> 52

Asn Leu Glu Glu Leu Glu Val Asp Asp Trp Glu Ala  
 1 5 10

<210> 53  
 <211> 12  
 <212> PRT  
 <213> Artificial

<220>  
 <223> C-terminal 12 residues STRAD alpha, third last residue mutated to Ala

<400> 53

Asn Leu Glu Glu Leu Glu Val Asp Asp Ala Glu Phe  
 1 5 10

SEQ LIST.txt

<210> 54  
 <211> 12  
 <212> PRT  
 <213> Artificial

<220>  
 <223> C-terminal 12 residues STRAD alpha, second last residue mutated to Ala

<400> 54

Asn Leu Glu Glu Leu Glu Val Asp Asp Trp Ala Phe  
 1 5 10

<210> 55  
 <211> 6  
 <212> PRT  
 <213> Artificial

<220>  
 <223> C-terminal 6 residues STRAD alpha

<400> 55

Val Asp Asp Trp Glu Phe  
 1 5

<210> 56  
 <211> 547  
 <212> PRT  
 <213> Homo sapiens

<400> 56

Met Ala Glu Pro Ser Gly Ser Pro Val His Val Gln Leu Pro Gln Gln  
 1 5 10 15

Ala Ala Pro Val Thr Ala Ala Ala Ala Ala Ala Pro Ala Ala Ala Thr  
 20 25 30

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Pro Ala  
 35 40 45

Pro Ala Pro Ala Ala Gln Ala Val Gly Trp Pro Ile Cys Arg Asp Ala  
 50 55 60

Tyr Glu Leu Gln Glu Val Ile Gly Ser Gly Ala Thr Ala Val Val Gln  
 65 70 75 80

Ala Ala Leu Cys Lys Pro Arg Gln Glu Arg Val Ala Ile Lys Arg Ile  
 85 90 95

Asn Leu Glu Lys Cys Gln Thr Ser Met Asp Glu Leu Leu Lys Glu Ile  
 100 105 110

SEQ LIST.txt

Gln Ala Met Ser Gln Cys Ser His Pro Asn Val Val Thr Tyr Tyr Thr  
115 120 125

Ser Phe Val Val Lys Asp Glu Leu Trp Leu Val Met Lys Leu Leu Ser  
130 135 140

Gly Gly Ser Met Leu Asp Ile Ile Lys Tyr Ile Val Asn Arg Gly Glu  
145 150 155 160

His Lys Asn Gly Val Leu Glu Glu Ala Ile Ile Ala Thr Ile Leu Lys  
165 170 175

Glu Val Leu Glu Gly Leu Asp Tyr Leu His Arg Asn Gly Gln Ile His  
180 185 190

Arg Asp Leu Lys Ala Gly Asn Ile Leu Leu Gly Glu Asp Gly Ser Val  
195 200 205

Gln Ile Ala Asp Phe Gly Val Ser Ala Phe Leu Ala Thr Gly Gly Asp  
210 215 220

Val Thr Arg Asn Lys Val Arg Lys Thr Phe Val Gly Thr Pro Cys Trp  
225 230 235 240

Met Ala Pro Glu Val Met Glu Gln Val Arg Gly Tyr Asp Phe Lys Ala  
245 250 255

Asp Met Trp Ser Phe Gly Ile Thr Ala Ile Glu Leu Ala Thr Gly Ala  
260 265 270

Ala Pro Tyr His Lys Tyr Pro Pro Met Lys Val Leu Met Leu Thr Leu  
275 280 285

Gln Asn Asp Pro Pro Thr Leu Glu Thr Gly Val Glu Asp Lys Glu Met  
290 295 300

Met Lys Lys Tyr Gly Lys Ser Phe Arg Lys Leu Leu Ser Leu Cys Leu  
305 310 315 320

Gln Lys Asp Pro Ser Lys Arg Pro Thr Ala Ala Glu Leu Leu Lys Cys  
325 330 335

Lys Phe Phe Gln Lys Ala Lys Asn Arg Glu Tyr Leu Ile Glu Lys Leu  
340 345 350

Leu Thr Arg Thr Pro Asp Ile Ala Gln Arg Ala Lys Lys Val Arg Arg  
43

## SEQ LIST.txt

355

360

365

Val Pro Gly Ser Ser Gly His Leu His Lys Thr Glu Asp Gly Asp Trp  
370 375 380

Glu Trp Ser Asp Asp Glu Met Asp Glu Lys Ser Glu Glu Gly Lys Ala  
385 390 395 400

Ala Phe Ser Gln Glu Lys Ser Arg Arg Val Lys Glu Glu Asn Pro Glu  
405 410 415

Ile Ala Val Ser Ala Ser Thr Ile Pro Glu Gln Ile Gln Ser Leu Ser  
420 425 430

Val His Asp Ser Gln Gly Pro Pro Asn Ala Asn Glu Asp Tyr Arg Glu  
435 440 445

Ala Ser Ser Cys Ala Val Asn Leu Val Leu Arg Leu Arg Asn Ser Arg  
450 455 460

Lys Glu Leu Asn Asp Ile Arg Phe Glu Phe Thr Pro Gly Arg Asp Thr  
465 470 475 480

Ala Asp Gly Val Ser Gln Glu Leu Phe Ser Ala Gly Leu Val Asp Gly  
485 490 495

His Asp Val Val Ile Val Ala Ala Asn Leu Gln Lys Ile Val Asp Asp  
500 505 510

Pro Lys Ala Leu Lys Thr Leu Thr Phe Lys Leu Ala Ser Gly Cys Asp  
515 520 525

Gly Ser Glu Ile Pro Asp Glu Val Lys Leu Ile Gly Phe Ala Gln Leu  
530 535 540

Ser Val Ser  
545

<210> 57  
<211> 527  
<212> PRT  
<213> Homo sapiens

<400> 57

Met Ser Glu Asp Ser Ser Ala Leu Pro Trp Ser Ile Asn Arg Asp Asp  
1 5 10 15

Tyr Glu Leu Gln Glu Val Ile Gly Ser Gly Ala Thr Ala Val Val Gln  
Page 44

## SEQ LIST.txt

20                      25                      30  
 Ala Ala Tyr Cys Ala Pro Lys Lys Glu Lys Val Ala Ile Lys Arg Ile  
                     35                      40  
 Asn Leu Glu Lys Cys Gln Thr Ser Met Asp Glu Leu Leu Lys Glu Ile  
                     50                      55  
 Gln Ala Met Ser Gln Cys His His Pro Asn Ile Val Ser Tyr Tyr Thr  
                     65                      70                      75                      80  
 Ser Phe Val Val Lys Asp Glu Leu Trp Leu Val Met Lys Leu Leu Ser  
                     85                      90                      95  
 Gly Gly Ser Val Leu Asp Ile Ile Lys His Ile Val Ala Lys Gly Glu  
                     100                      105                      110  
 His Lys Ser Gly Val Leu Asp Glu Ser Thr Ile Ala Thr Ile Leu Arg  
                     115                      120                      125  
 Glu Val Leu Glu Gly Leu Glu Tyr Leu His Lys Asn Gly Gln Ile His  
                     130                      135                      140  
 Arg Asp Val Lys Ala Gly Asn Ile Leu Leu Gly Glu Asp Gly Ser Val  
                     145                      150                      155                      160  
 Gln Ile Ala Asp Phe Gly Val Ser Ala Phe Leu Ala Thr Gly Gly Asp  
                     165                      170                      175  
 Ile Thr Arg Asn Lys Val Arg Lys Thr Phe Val Gly Thr Pro Cys Trp  
                     180                      185                      190  
 Met Ala Pro Glu Val Met Glu Gln Val Arg Gly Tyr Asp Phe Lys Ala  
                     195                      200                      205  
 Asp Ile Trp Ser Phe Gly Ile Thr Ala Ile Glu Leu Ala Thr Gly Ala  
                     210                      215                      220  
 Ala Pro Tyr His Lys Tyr Pro Pro Met Lys Val Leu Met Leu Thr Leu  
                     225                      230                      235                      240  
 Gln Asn Asp Pro Pro Ser Leu Glu Thr Gly Val Gln Asp Lys Glu Met  
                     245                      250                      255  
 Leu Lys Lys Tyr Gly Lys Ser Phe Arg Lys Met Ile Ser Leu Cys Leu  
                     260                      265                      270

SEQ LIST.txt

Gln Lys Asp Pro Glu Lys Arg Pro Thr Ala Ala Glu Leu Leu Arg His  
 275 280 285

Lys Phe Phe Gln Lys Ala Lys Asn Lys Glu Phe Leu Gln Glu Lys Thr  
 290 295 300

Leu Gln Arg Ala Pro Thr Ile Ser Glu Arg Ala Lys Lys Val Arg Arg  
 305 310 315 320

Val Pro Gly Ser Ser Gly Arg Leu His Lys Thr Glu Asp Gly Gly Trp  
 325 330 335

Glu Trp Ser Asp Asp Glu Phe Asp Glu Glu Ser Glu Glu Gly Lys Ala  
 340 345 350

Ala Ile Ser Gln Leu Arg Ser Pro Arg Val Lys Glu Ser Ile Ser Asn  
 355 360 365

Ser Glu Leu Phe Pro Thr Thr Asp Pro Val Gly Thr Leu Leu Gln Val  
 370 375 380

Pro Glu Gln Ile Ser Ala His Leu Pro Gln Pro Ala Gly Gln Ile Ala  
 385 390 395 400

Thr Gln Pro Thr Gln Val Ser Leu Pro Pro Thr Ala Glu Pro Ala Lys  
 405 410 415

Thr Ala Gln Ala Leu Ser Ser Gly Ser Gly Ser Gln Glu Thr Lys Ile  
 420 425 430

Pro Ile Ser Leu Val Leu Arg Leu Arg Asn Ser Lys Lys Glu Leu Asn  
 435 440 445

Asp Ile Arg Phe Glu Phe Thr Pro Gly Arg Asp Thr Ala Glu Gly Val  
 450 455 460

Ser Gln Glu Leu Ile Ser Ala Gly Leu Val Asp Gly Arg Asp Leu Val  
 465 470 475 480

Ile Val Ala Ala Asn Leu Gln Lys Ile Val Glu Glu Pro Gln Ser Asn  
 485 490 495

Arg Ser Val Thr Phe Lys Leu Ala Ser Gly Val Glu Gly Ser Asp Ile  
 500 505 510

Pro Asp Asp Gly Lys Leu Ile Gly Phe Ala Gln Leu Ser Ile Ser  
 515 520 525

SEQ LIST.txt

<210> 58  
 <211> 560  
 <212> PRT  
 <213> Saccharomyces cerevisiae

<400> 58

Met Val Leu Leu Lys Glu Pro Val Gln Pro Leu Pro Arg Ser Ser Leu  
 1 5 10 15

Leu Tyr Asn Asn Ala Ser Asn Ser Ser Ser Arg Ile Lys Glu Thr Arg  
 20 25 30

Lys Val Lys Leu Leu Tyr Asn Pro Leu Thr Lys Arg Gln Ile Leu Asn  
 35 40 45

Asn Phe Glu Ile Leu Ala Thr Leu Gly Asn Gly Gln Tyr Gly Lys Val  
 50 55 60

Lys Leu Ala Arg Asp Leu Gly Thr Gly Ala Leu Val Ala Ile Lys Ile  
 65 70 75 80

Leu Asn Arg Phe Glu Lys Arg Ser Gly Tyr Ser Leu Gln Leu Lys Val  
 85 90 95

Glu Asn Pro Arg Val Asn Gln Glu Ile Glu Val Met Lys Arg Cys His  
 100 105 110

His Glu Asn Val Val Glu Leu Tyr Glu Ile Leu Asn Asp Pro Glu Ser  
 115 120 125

Thr Lys Val Tyr Leu Val Leu Glu Tyr Cys Ser Arg Gly Pro Val Lys  
 130 135 140

Trp Cys Pro Glu Asn Lys Met Glu Ile Lys Ala Val Gly Pro Ser Ile  
 145 150 155 160

Leu Thr Phe Gln Gln Ser Arg Lys Val Val Leu Asp Val Val Ser Gly  
 165 170 175

Leu Glu Tyr Leu His Ser Gln Gly Ile Thr His Arg Asp Ile Lys Pro  
 180 185 190

Ser Asn Leu Leu Ile Ser Ser Asn Gly Thr Val Lys Ile Ser Asp Phe  
 195 200 205

Gly Val Ala Met Ser Thr Ala Thr Gly Ser Thr Asn Ile Gln Ser Ser  
 210 215 220

SEQ LIST.txt

His Glu Gln Leu Leu Lys Ser Arg Ala Leu Gly Thr Pro Ala Phe Phe  
225 230 235 240

Ala Pro Glu Leu Cys Ser Thr Glu Lys Glu Tyr Ser Cys Ser Ser Ala  
245 250 255

Ile Asp Ile Trp Ser Leu Gly Val Thr Ile Tyr Cys Leu Leu Phe Gly  
260 265 270

Lys Leu Pro Phe Asn Ala Asn Ser Gly Leu Glu Leu Phe Asp Ser Ile  
275 280 285

Ile Asn Lys Pro Leu Glu Phe Pro Ser Tyr Glu Glu Met Leu Asn Gly  
290 295 300

Ala Thr Ser Gly Ile Thr Met Glu Glu Tyr Thr Asp Ala Lys Asp Leu  
305 310 315 320

Leu Lys Lys Leu Leu Gln Lys Asp Pro Asp Lys Arg Ile Lys Leu Ala  
325 330 335

Asp Ile Lys Val His Pro Phe Met Cys His Tyr Gly Lys Ser Asp Ala  
340 345 350

Ala Ser Val Leu Thr Asn Leu Glu Thr Phe His Glu Leu Lys Val Ser  
355 360 365

Pro Pro Ser Ser Cys Lys Arg Val Glu Leu Val Ser Leu Pro Val Asn  
370 375 380

Ser Ser Phe Ala Ser Leu Asp Ser Val Tyr Met Glu Asn Phe Asp His  
385 390 395 400

Asn Asn Leu Arg Thr Gly Ala Asp Arg Asn Ser Thr Tyr Ser Pro Ser  
405 410 415

Ile Tyr Asp Ala Asn Thr Leu Ser Pro Ser Ala Tyr His Asn Ile Gly  
420 425 430

Ser Arg Glu Ser Ser Tyr Ser Ser Phe Ser Ser Phe Thr Ser Ser Thr  
435 440 445

Ala Phe Ala Ser Gln Ile Ser Ile Gln Asp Ala Pro Ala Ile Gly Asp  
450 455 460

Gln Gln Cys Leu Ile Gly Glu Ser Gly Ser Ser Leu Arg Val Asn Ser  
465 470 475 480



SEQ LIST.txt

Cys Glu Phe Pro Gln Tyr Thr Thr Met Ser Pro Val Gly Glu Tyr Pro  
485 490 495

Phe Glu Ser Thr Glu Ala Ser Leu Ser Ser Thr Leu Thr Pro Val Gly  
500 505 510

Asn Val Pro Gln Arg Ile Lys Ala His Leu Val Glu Gly Lys Ser Asn  
515 520 525

Ser Lys Asp Asp Leu Arg Ile Glu Ala Asp Ala Ser Leu Val Phe Glu  
530 535 540

Ala Ser Asp Ala Gln Arg Thr Arg Arg Arg Met Ser Leu Tyr Lys Leu  
545 550 555 560

<210> 59  
<211> 1142  
<212> PRT  
<213> Saccharomyces cerevisiae  
  
<400> 59

Met Asp Arg Ser Asp Lys Lys Val Asn Val Glu Glu Val Asn Val Pro  
1 5 10 15

Ser Asn Leu Gln Ile Glu Leu Glu Lys Ser Gly Thr Ser Ser Ser Val  
20 25 30

Ser Leu Arg Ser Pro Thr Lys Ser Ser Ala Thr Asn Leu Ala Gly Met  
35 40 45

Ala Glu Gly Ala Arg Asp Asn Ala Ser Ile Ala Ser Ser Ser Val Asp  
50 55 60

Ser Leu Asn Met Leu Leu Glu Arg Gln Arg Val Arg Gln Leu Asn His  
65 70 75 80

Pro Gln His Gln Gln His Ile Ser Ser Ser Leu Ala Lys Thr Pro Thr  
85 90 95

Thr Thr Ser Ser Phe Cys Ser Ser Gly Ser Ser Lys Asn Lys Val Lys  
100 105 110

Glu Thr Asn Arg Ile Ser Leu Thr Tyr Asp Pro Val Ser Lys Arg Lys  
115 120 125

Val Leu Asn Thr Tyr Glu Ile Ile Lys Glu Leu Gly His Gly Gln His  
130 135 140

SEQ LIST.txt

Gly Lys Val Lys Leu Ala Arg Asp Ile Leu Ser Lys Gln Leu Val Ala  
 145 150 155 160  
 Ile Lys Ile Val Asp Arg His Glu Lys Lys Gln Arg Lys Phe Phe Thr  
 165 170 175  
 Phe Ile Lys Ser Ser Lys Ile Ser Glu Asn Asp Lys Ile Lys Arg Glu  
 180 185 190  
 Ile Ala Ile Met Lys Lys Cys His His Lys His Val Val Gln Leu Ile  
 195 200 205  
 Glu Val Leu Asp Asp Leu Lys Ser Arg Lys Ile Tyr Leu Val Leu Glu  
 210 215 220  
 Tyr Cys Ser Arg Gly Glu Val Lys Trp Cys Pro Pro Asp Cys Met Glu  
 225 230 235 240  
 Ser Asp Ala Lys Gly Pro Ser Leu Leu Ser Phe Gln Glu Thr Arg Glu  
 245 250 255  
 Ile Leu Arg Gly Val Val Leu Gly Leu Glu Tyr Leu His Tyr Gln Gly  
 260 265 270  
 Ile Ile His Arg Asp Ile Lys Pro Ala Asn Leu Leu Ile Ser Gly Asp  
 275 280 285  
 Gly Thr Val Lys Ile Ser Asp Phe Gly Val Ser Leu Ala Ala Ser Ser  
 290 295 300  
 Thr Asn Ser Ser Asp Ser Ser Glu Ser Leu Asp Glu Leu Glu Leu Ala  
 305 310 315 320  
 Lys Thr Val Gly Thr Pro Ala Phe Phe Ala Pro Glu Met Cys Leu Gly  
 325 330 335  
 Glu Asp Ala Phe Thr Arg Tyr Asn Leu Thr Lys Glu Asn Leu Phe Arg  
 340 345 350  
 Gly Ser Cys Ile Ser Phe Met Ile Asp Ile Trp Ala Val Gly Val Thr  
 355 360 365  
 Leu Tyr Cys Leu Leu Phe Gly Met Leu Pro Phe Phe Ser Asp Phe Glu  
 370 375 380  
 Leu Lys Leu Phe Glu Lys Ile Val Asn Asp Pro Leu Lys Phe Pro Thr  
 Page 50

SEQ LIST.txt  
395

385

390

400

Phe Lys Glu Ile Gln Ser Asn Lys Val Ser Lys Val Ser Cys Glu Glu  
405 410 415

Glu Tyr Glu Met Ala Lys Asp Leu Leu Leu Lys Leu Leu Glu Lys Asn  
420 425 430

Pro Gln Lys Arg Met Thr Ile Pro Ala Ile Lys Lys His Pro Phe Val  
435 440 445

Ser Trp Asp Phe Asp His Val Pro Glu Asn Asp Glu Lys Leu Leu Ser  
450 455 460

Ser Val Leu Glu Gln Lys Leu Arg Phe Gln Cys Asn Gln Thr Asp Gln  
465 470 475 480

Phe Glu Pro Ile Ser Ile Ser Lys His Glu Leu Lys Asn Ala Val Ser  
485 490 495

Gly Val Gly Lys Lys Ile Lys Glu Ser Val Leu Lys Ser Ile Pro Leu  
500 505 510

Lys Asp Pro Ser Asp Leu Ser Asn Lys Asn Tyr Leu His Pro Thr Glu  
515 520 525

Thr Thr Arg Gly Arg Gly Asp Ala Asn Val Ile Val Ser Glu Gly Ser  
530 535 540

Val Leu Ser Asn Ile Lys Glu Leu Ser Ala Asn Asp Gly Cys Leu Asn  
545 550 555 560

Thr Asp Ser Asp Thr Asn Ile Asn Ile Asn Asp Asp Asp His Tyr Ser  
565 570 575

Gly Asp Asp Asn Asp Gly His Leu Thr Lys Arg Glu Leu Glu Arg Glu  
580 585 590

Leu Asn Lys Phe Asp Asp Lys His Glu Ala Gly Asn Met Val Asn Leu  
595 600 605

Pro Ile Asn Ser Ser Phe Ala Ser Leu Asp Ser Phe Tyr Ile Asp Asn  
610 615 620

Phe Ala Met Ala Arg Met Gly Met Ser Ser Pro Glu Ala Gly Asp Ser  
625 630 635 640

## SEQ LIST.txt

Val Ser Ser Val Pro Asn Leu Pro Ser Ala Pro Ser Ser Thr Arg Leu  
 645 650 655  
 Gly Arg Ser Pro Val Phe Ser Gly Val Thr Asn Gln Pro Ser Pro Ile  
 660 665 670  
 Arg Pro Val Leu Pro Gln Gln Lys Ser Ser Phe Cys Ala Thr Gly Arg  
 675 680 685  
 Tyr Asp Lys Ser His Asn Ser Leu Leu Arg Asn Ser Ser Ser His Leu  
 690 695 700  
 Thr Ser Tyr Asn Ser Gly Arg Pro Ser Ser Arg Thr Gly Arg Met Asn  
 705 710 715 720  
 Ser Arg Asn Gln Asn Leu Pro Lys Ile Pro Asn Ser Leu Ser Lys Ile  
 725 730 735  
 Ser Thr Thr Lys Leu Thr Glu Leu Arg Val Pro Lys Asp Ser Glu Ile  
 740 745 750  
 Pro Ser Pro Ala Lys Asn Pro Asn Ala Asp Arg Leu Arg Arg Phe Pro  
 755 760 765  
 Val Lys Lys Asn Thr Lys Thr Pro Ala Ile Lys Asp Pro Pro Arg Ile  
 770 775 780  
 Asn Ile Asn Ser Ser Asp Lys Ser Gly Ser Lys Asn Ser Pro Ile Lys  
 785 790 795 800  
 Ser Leu Tyr Gln Arg Met Lys Gln Ser Lys Asp Asn Ser Lys Thr Phe  
 805 810 815  
 Glu Val Arg Arg Gly Asn Phe Phe Ser His Phe Asn Gly Asp Asp Asp  
 820 825 830  
 Asp Ser Ser Ser Gln Ser Ser Val Thr Ser Ser Gly Ser Glu Ser Asp  
 835 840 845  
 Ser Glu Leu Ser Ser Thr Ser Ser Ser Cys Thr Ser Gly Thr Gln Ser  
 850 855 860  
 Arg Asn Ser Ser Asn Asn Asn Ala Tyr Ser Glu Thr Glu Ser Leu Pro  
 865 870 875 880  
 Phe Glu Phe Gly Val Asp Ser Glu Asp Gly Ser Gly Val Leu Leu Arg  
 885 890 895

SEQ LIST.txt

Asp Leu Pro Asn Glu Asp Gln Ile Arg Pro Phe Leu Asp Ile Gln Pro  
900 905 910

Cys Arg Arg Met Lys Val Lys Ser Ser Leu Asn Leu Glu Pro Pro Ser  
915 920 925

Val Ser Ser Ser Ser Ser Ser Ser Asp Glu Asp Glu Leu Ile Leu  
930 935 940

Asn Val Gly Thr Ala Gly His Arg Arg Arg His Asn Ser Ser Lys Leu  
945 950 955 960

Ser Glu Leu Ser Asn Ser Pro Gln Lys Gly Ser Asn Asn Phe Met Tyr  
965 970 975

Ser Asn Gly Ser Val His Asp Ser Glu Thr Thr Ile Thr Pro Gln Asn  
980 985 990

Met Asp Asp Leu Thr Leu His Gln Ala Leu Ser Arg Ser Gln Pro Ile  
995 1000 1005

Ser Lys Pro Gly Pro Leu Val Leu Pro Lys Arg Leu Asp Gln Lys  
1010 1015 1020

Lys Ala Thr Thr Glu Thr Ser Asn Leu Thr Asp Ile Val Glu Phe  
1025 1030 1035

Asn Gly Asn Asn Asp His Arg Lys Asp Lys Asn Phe Asp Lys Val  
1040 1045 1050

Leu Tyr Ser Arg Asp Leu Leu Lys Asp Ala Leu Ser Ser Thr Asn  
1055 1060 1065

Ala Gly Arg Arg Arg Ser Ile Pro Ser Asn Lys Ile Arg Gly Arg  
1070 1075 1080

Lys Asp Ala Ser Ile Thr Met Ser Thr Asn Val Gly Asn Asp Glu  
1085 1090 1095

His Ala Arg Asn Thr Ser Cys His Gly Asp Lys Gly Gln Glu Asn  
1100 1105 1110

Gly Ala Ile Lys Gln Arg Thr His Glu Arg Ser Arg Ser Leu Thr  
1115 1120 1125

Val Ala Glu Leu Asn Glu Glu Lys Arg Arg Ser Ala Leu Pro  
1130 1135 1140

SEQ LIST.txt

<210> 60  
 <211> 640  
 <212> PRT  
 <213> Saccharomyces cerevisiae

<400> 60

Met Ser Pro Arg Gln Leu Ile Pro Thr Leu Ile Pro Glu Trp Ala Pro  
 1 5 10 15

Leu Ser Gln Gln Ser Cys Ile Arg Glu Asp Glu Leu Asp Ser Pro Pro  
 20 25 30

Ile Thr Pro Thr Ser Gln Thr Ser Phe Gly Ser Ser Phe Ser Gln  
 35 40 45

Gln Lys Pro Thr Tyr Ser Thr Ile Ile Gly Glu Asn Ile His Thr Ile  
 50 55 60

Leu Asp Glu Ile Arg Pro Tyr Val Lys Lys Ile Thr Val Ser Asp Gln  
 65 70 75 80

Asp Lys Lys Thr Ile Asn Gln Tyr Thr Leu Gly Val Ser Ala Gly Ser  
 85 90 95

Gly Gln Phe Gly Tyr Val Arg Lys Ala Tyr Ser Ser Thr Leu Gly Lys  
 100 105 110

Val Val Ala Val Lys Ile Ile Pro Lys Lys Pro Trp Asn Ala Gln Gln  
 115 120 125

Tyr Ser Val Asn Gln Val Met Arg Gln Ile Gln Leu Trp Lys Ser Lys  
 130 135 140

Gly Lys Ile Thr Thr Asn Met Ser Gly Asn Glu Ala Met Arg Leu Met  
 145 150 155 160

Asn Ile Glu Lys Cys Arg Trp Glu Ile Phe Ala Ala Ser Arg Leu Arg  
 165 170 175

Asn Asn Val His Ile Val Arg Leu Ile Glu Cys Leu Asp Ser Pro Phe  
 180 185 190

Ser Glu Ser Ile Trp Ile Val Thr Asn Trp Cys Ser Leu Gly Glu Leu  
 195 200 205

Gln Trp Lys Arg Asp Asp Asp Glu Asp Ile Leu Pro Gln Trp Lys Lys  
 210 215 220

SEQ LIST.txt

Ile Val Ile Ser Asn Cys Ser Val Ser Thr Phe Ala Lys Lys Ile Leu  
 225 230 235 240

Glu Asp Met Thr Lys Gly Leu Glu Tyr Leu His Ser Gln Gly Cys Ile  
 245 250 255

His Arg Asp Ile Lys Pro Ser Asn Ile Leu Leu Asp Glu Glu Glu Lys  
 260 265 270

Val Ala Lys Leu Ser Asp Phe Gly Ser Cys Ile Phe Thr Pro Gln Ser  
 275 280 285

Leu Pro Phe Ser Asp Ala Asn Phe Glu Asp Cys Phe Gln Arg Glu Leu  
 290 295 300

Asn Lys Ile Val Gly Thr Pro Ala Phe Ile Ala Pro Glu Leu Cys His  
 305 310 315 320

Leu Gly Asn Ser Lys Arg Asp Phe Val Thr Asp Gly Phe Lys Leu Asp  
 325 330 335

Ile Trp Ser Leu Gly Val Thr Leu Tyr Cys Leu Leu Tyr Asn Glu Leu  
 340 345 350

Pro Phe Phe Gly Glu Asn Glu Phe Glu Thr Tyr His Lys Ile Ile Glu  
 355 360 365

Val Ser Leu Ser Ser Lys Ile Asn Gly Asn Thr Leu Asn Asp Leu Val  
 370 375 380

Ile Lys Arg Leu Leu Glu Lys Asp Val Thr Leu Arg Ile Ser Ile Gln  
 385 390 395 400

Asp Leu Val Lys Val Leu Ser Arg Asp Gln Pro Ile Asp Ser Arg Asn  
 405 410 415

His Ser Gln Ile Ser Ser Ser Val Asn Pro Val Arg Asn Glu Gly  
 420 425 430

Pro Val Arg Arg Phe Phe Gly Arg Leu Leu Thr Lys Lys Gly Lys Lys  
 435 440 445

Lys Thr Ser Gly Lys Gly Lys Asp Lys Val Leu Val Ser Ala Thr Ser  
 450 455 460

Lys Val Thr Pro Ser Ile His Ile Asp Glu Glu Pro Asp Lys Glu Cys  
 Page 55

SEQ LIST.txt  
475

465 470 480

Phe Ser Thr Thr Val Leu Arg Ser Ser Pro Asp Ser Ser Asp Tyr Cys  
485 490 495

Ser Ser Leu Gly Glu Glu Ala Ile Gln Val Thr Asp Phe Leu Asp Thr  
500 505 510

Phe Cys Arg Ser Asn Glu Ser Leu Pro Asn Leu Thr Val Asn Asn Asp  
515 520 525

Lys Gln Asn Ser Asp Met Lys Thr Asp Arg Ser Glu Ser Ser Ser His  
530 535 540

Ser Ser Leu Lys Ile Pro Thr Pro Ile Lys Ala Met Ile Arg Leu Lys  
545 550 555 560

Ser Ser Pro Lys Glu Asn Gly Asn Arg Thr His Ile Asn Cys Ser Gln  
565 570 575

Asp Lys Pro Ser Ser Pro Leu Met Asp Arg Thr Val Gly Lys Arg Thr  
580 585 590

Val Asn Asn Ser Gly Ala Arg Lys Leu Ala His Ser Ser Asn Ile Leu  
595 600 605

Asn Phe Lys Ala Tyr Ile Asn Ser Glu Asp Ser Asp Ile Arg Glu Thr  
610 615 620

Val Glu Asp Val Lys Thr Tyr Leu Asn Phe Ala Asp Asn Gly Gln Ile  
625 630 635 640

<210> 61  
<211> 545  
<212> PRT  
<213> Homo sapiens

<400> 61

Met Ser Ser Cys Val Ser Ser Gln Pro Ser Ser Asn Arg Ala Ala Pro  
1 5 10 15

Gln Asp Glu Leu Gly Gly Arg Gly Ser Ser Ser Ser Glu Ser Gln Lys  
20 25 30

Pro Cys Glu Ala Leu Arg Gly Leu Ser Ser Leu Ser Ile His Leu Gly  
35 40 45

Met Glu Ser Phe Ile Val Val Thr Glu Cys Glu Pro Gly Cys Ala Val



SEQ LIST.txt  
60

50

55

Asp Leu Gly Leu Ala Arg Asp Arg Pro Leu Glu Ala Asp Gly Gln Glu  
65 70 75 80

Val Pro Leu Asp Thr Ser Gly Ser Gln Ala Arg Pro His Leu Ser Gly  
85 90 95

Arg Lys Leu Ser Leu Gln Glu Arg Ser Gln Gly Gly Leu Ala Ala Gly  
100 105 110

Gly Ser Leu Asp Met Asn Gly Arg Cys Ile Cys Pro Ser Leu Pro Tyr  
115 120 125

Ser Pro Val Ser Ser Pro Gln Ser Ser Pro Arg Leu Pro Arg Arg Pro  
130 135 140

Thr Val Glu Ser His His Val Ser Ile Thr Gly Met Gln Asp Cys Val  
145 150 155 160

Gln Leu Asn Gln Tyr Thr Leu Lys Asp Glu Ile Gly Lys Gly Ser Tyr  
165 170 175

Gly Val Val Lys Leu Ala Tyr Asn Glu Asn Asp Asn Thr Tyr Tyr Ala  
180 185 190

Met Lys Val Leu Ser Lys Lys Lys Leu Ile Arg Gln Ala Gly Phe Pro  
195 200 205

Arg Arg Pro Pro Pro Arg Gly Thr Arg Pro Ala Pro Gly Gly Cys Ile  
210 215 220

Gln Pro Arg Gly Pro Ile Glu Gln Val Tyr Gln Glu Ile Ala Ile Leu  
225 230 235 240

Lys Lys Leu Asp His Pro Asn Val Val Lys Leu Val Glu Val Leu Asp  
245 250 255

Asp Pro Asn Glu Asp His Leu Tyr Met Val Phe Glu Leu Val Asn Gln  
260 265 270

Gly Pro Val Met Glu Val Pro Thr Leu Lys Pro Leu Ser Glu Asp Gln  
275 280 285

Ala Arg Phe Tyr Phe Gln Asp Leu Ile Lys Gly Ile Glu Tyr Leu His  
290 295 300

SEQ LIST.txt

Tyr Gln Lys Ile Ile His Arg Asp Ile Lys Pro Ser Asn Leu Leu Val  
 305 310 315 320  
 Gly Glu Asp Gly His Ile Lys Ile Ala Asp Phe Gly Val Ser Asn Glu  
 325 330 335  
 Phe Lys Gly Ser Asp Ala Leu Leu Ser Asn Thr Val Gly Thr Pro Ala  
 340 345 350  
 Phe Met Ala Pro Glu Ser Leu Ser Glu Thr Arg Lys Ile Phe Ser Gly  
 355 360 365  
 Lys Ala Leu Asp Val Trp Ala Met Gly Val Thr Leu Tyr Cys Phe Val  
 370 375 380  
 Phe Gly Gln Cys Pro Phe Met Asp Glu Arg Ile Met Cys Leu His Ser  
 385 390 395 400  
 Lys Ile Lys Ser Gln Ala Leu Glu Phe Pro Asp Gln Pro Asp Ile Ala  
 405 410 415  
 Glu Asp Leu Lys Asp Leu Ile Thr Arg Met Leu Asp Lys Asn Pro Glu  
 420 425 430  
 Ser Arg Ile Val Val Pro Glu Ile Lys Ile Leu Val Lys Thr Met Ile  
 435 440 445  
 Arg Lys Arg Ser Phe Gly Asn Pro Phe Glu Gly Ser Arg Arg Glu Glu  
 450 455 460  
 Arg Ser Leu Ser Ala Pro Gly Asn Leu Leu Thr Lys Lys Pro Thr Arg  
 465 470 475 480  
 Glu Cys Glu Ser Leu Ser Glu Leu Lys Glu Ala Arg Gln Arg Arg Gln  
 485 490 495  
 Pro Pro Gly His Arg Pro Ala Pro Arg Gly Gly Gly Gly Ser Ala Leu  
 500 505 510  
 Val Arg Gly Ser Pro Cys Val Glu Ser Cys Trp Ala Pro Ala Pro Gly  
 515 520 525  
 Ser Pro Ala Arg Met His Pro Leu Arg Pro Glu Glu Ala Met Glu Pro  
 530 535 540  
 Glu  
 545

SEQ LIST.txt

<210> 62  
 <211> 243  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Consensus for figure 12

<400> 62

Pro Ser Ser Ser Ser Ser Ser Arg Ile Lys Thr Val Leu Tyr Pro Leu  
 1 5 10 15

Thr Lys Arg Gln Ile Leu Asn Asn Tyr Ile Leu Gly Gly Gln Tyr Gly  
 20 25 30

Lys Val Lys Leu Ala Asp Thr Leu Val Ala Ile Lys Ile Leu Lys Lys  
 35 40 45

Lys Lys Tyr Lys Asp Arg Val Lys Glu Ile Val Met Lys Arg Leu His  
 50 55 60

His Asn Val Val Leu Ile Glu Val Leu Asp Asp Pro Ser Lys Val Tyr  
 65 70 75 80

Leu Val Leu Glu Tyr Cys Ser Gly Val Trp Cys Met Glu Ile Val Pro  
 85 90 95

Ile Leu Ser Gln Ala Arg Val Val Asp Val Val Gly Leu Glu Tyr Leu  
 100 105 110

His Ser Gln Gly Ile Ile His Arg Asp Ile Lys Pro Ser Asn Ile Leu  
 115 120 125

Ile Ser Asp Gly Thr Val Lys Ile Ser Asp Phe Gly Val Thr Ser Asp  
 130 135 140

Ser Leu Arg Val Gly Thr Pro Ala Phe Ala Pro Glu Leu Cys Tyr Phe  
 145 150 155 160

Ile Asp Ile Trp Ser Leu Gly Val Thr Leu Tyr Cys Leu Leu Phe Gly  
 165 170 175

Leu Pro Phe Ala Asp Leu Leu Phe Asp Lys Ile Ile Leu Phe Pro Glu  
 180 185 190

Met Glu Glu Leu Lys Asp Leu Leu Lys Lys Leu Leu Glu Asn Lys Asn  
 195 200 205

SEQ LIST.txt

Pro Lys Arg Ile Leu Ile Lys His Pro Phe Val Asp His Pro Asp Val  
210 215 220

Leu Thr Glu Leu Lys Pro Leu Arg Val Glu Pro Val Ser Leu Lys Ser  
225 230 235 240

Ser Leu Gly

<210> 63  
<211> 25  
<212> PRT  
<213> Homo sapiens

<400> 63

Asp Phe Gly Phe Ala Lys Arg Val Lys Gly Arg Thr Trp Thr Leu Cys  
1 5 10 15

Gly Thr Pro Glu Tyr Leu Ala Pro Glu  
20 25

<210> 64  
<211> 28  
<212> PRT  
<213> Homo sapiens

<400> 64

Asp Phe Gly Met Cys Lys Glu His Met Met Asp Gly Val Thr Thr Arg  
1 5 10 15

Thr Phe Cys Gly Thr Pro Asp Tyr Ile Ala Pro Glu  
20 25

<210> 65  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 65

Asp Phe Gly Leu Ser Asn Leu Tyr Gln Lys Asp Lys Phe Leu Gln Thr  
1 5 10 15

Phe Cys Gly Ser Pro Leu Tyr Ala Ser Pro Glu  
20 25

<210> 66  
<211> 26  
<212> PRT  
<213> Homo sapiens

<400> 66

SEQ LIST.txt

Asp Phe Gly Leu Ser Asn Tyr His Gln Gly Lys Phe Leu Gln Thr Phe  
1 10 15

Cys Gly Ser Pro Leu Tyr Ala Ser Pro Glu  
20 25

<210> 67  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 67

Asp Phe Gly Met Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr  
1 5 10 15

Ser Cys Gly Ser Pro His Tyr Ala Cys Pro Glu  
20 25

<210> 68  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 68

Asp Phe Gly Met Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr  
1 5 10 15

Ser Cys Gly Ser Pro His Tyr Ala Cys Pro Glu  
20 25

<210> 69  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 69

Asp Phe Gly Phe Gly Asn Phe Tyr Lys Ser Gly Glu Pro Leu Ser Thr  
1 5 10 15

Trp Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
20 25

<210> 70  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 70

Asp Phe Gly Phe Gly Asn Phe Phe Lys Ser Gly Glu Leu Leu Ala Thr  
1 5 10 15

SEQ LIST.txt

Trp Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
20 25

<210> 71  
<211> 27  
<212> PRT  
<213> Arabidopsis thaliana

<400> 71

Asp Phe Gly Leu Ser Asn Ile Met Arg Asp Gly His Phe Leu Lys Thr  
1 5 10 15

Ser Cys Gly Ser Pro Asn Tyr Ala Ala Pro Glu  
20 25

<210> 72  
<211> 27  
<212> PRT  
<213> Arabidopsis thaliana

<400> 72

Asp Phe Gly Leu Ser Asn Val Met Arg Asp Gly His Phe Leu Lys Thr  
1 5 10 15

Ser Cys Gly Ser Pro Asn Tyr Ala Ala Pro Glu  
20 25

<210> 73  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 73

Asp Phe Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr  
1 5 10 15

Ser Cys Gly Ser Pro Asn Tyr Ala Ala Pro Glu  
20 25

<210> 74  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 74

Asp Phe Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr  
1 5 10 15

Ser Cys Gly Ser Pro Asn Tyr Ala Ala Pro Glu  
Page 62

## SEQ LIST.txt

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25

<210> 75  
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 <212> PRT  
 <213> Saccharomyces cerevisiae

<400> 75

Asp Phe Gly Leu Ser Asn Ile Met Thr Asp Gly Asn Phe Leu Lys Thr  
 1 5 10 15

Ser Cys Gly Ser Pro Asn Tyr Ala Ala Pro Glu  
 20 25

<210> 76  
 <211> 27  
 <212> PRT  
 <213> Homo sapiens

<400> 76

Asp Phe Gly Phe Ser Asn Leu Phe Thr Pro Gly Gln Leu Leu Lys Thr  
 1 5 10 15

Trp Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
 20 25

<210> 77  
 <211> 29  
 <212> PRT  
 <213> Homo sapiens

<400> 77

Asp Phe Gly Leu Cys Ala Lys Pro Lys Gly Asn Lys Asp Tyr His Leu  
 1 5 10 15

Gln Thr Cys Cys Gly Ser Leu Ala Tyr Ala Ala Pro Glu  
 20 25

<210> 78  
 <211> 21  
 <212> PRT  
 <213> Artificial

<220>  
 <223> consensus from figure 19

<400> 78

Asp Phe Gly Leu Ser Asn Leu Gly Phe Leu Thr Ser Cys Gly Ser Pro  
 1 5 10 15

Tyr Ala Ala Pro Glu

## SEQ LIST.txt

20

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 <211> 27  
 <212> PRT  
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<400> 79

Asp Phe Gly Phe Ser Asn Glu Phe Thr Val Gly Asn Lys Leu Asp Thr  
 1 5 10 15

Phe Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
 20 25

<210> 80  
 <211> 27  
 <212> PRT  
 <213> Homo sapiens

<400> 80

Asp Phe Gly Phe Ser Asn Glu Phe Thr Val Gly Asn Lys Leu Asp Thr  
 1 5 10 15

Phe Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
 20 25

<210> 81  
 <211> 27  
 <212> PRT  
 <213> Homo sapiens

<400> 81

Asp Phe Gly Phe Ser Asn Glu Phe Thr Val Gly Gly Lys Leu Asp Thr  
 1 5 10 15

Phe Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
 20 25

<210> 82  
 <211> 27  
 <212> PRT  
 <213> Homo sapiens

<400> 82

Asp Phe Gly Phe Ser Asn Glu Phe Thr Leu Gly Ser Lys Leu Asp Thr  
 1 5 10 15

Phe Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu  
 20 25



SEQ LIST.txt

<210> 83  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 83

Leu Ser Asn Leu Tyr His Gln Gly Lys Phe Leu Gln Thr Phe Cys Gly  
 1 5 10 15

Ser Pro Leu Tyr Arg Arg Arg  
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<210> 84  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 84

Phe Gly Asn Phe Tyr Lys Ser Gly Glu Pro Leu Ser Thr Trp Cys Gly  
 1 5 10 15

Ser Pro Pro Tyr Arg Arg Arg  
 20

<210> 85  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 85

Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly  
 1 5 10 15

Ser Pro Asn Tyr Arg Arg Arg  
 20

<210> 86  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 86

Met Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr Ser Cys Gly  
 1 5 10 15

Ser Pro His Tyr Arg Arg Arg  
 20

<210> 87  
 <211> 23  
 <212> PRT

SEQ LIST.txt

<213> Homo sapiens

<400> 87

Phe Ser Asn Glu Phe Thr Val Gly Gly Lys Leu Asp Thr Phe Cys Gly  
1 5 10 15

Ser Pro Pro Tyr Arg Arg Arg  
20

<210> 88

<211> 23

<212> PRT

<213> Homo sapiens

<400> 88

Ala Lys Pro Lys Gly Asn Lys Asp Tyr His Leu Gln Thr Cys Cys Gly  
1 5 10 15

Ser Leu Ala Tyr Arg Arg Arg  
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<210> 89

<211> 32

<212> PRT

<213> Homo sapiens

<400> 89

Ile Ala Ala Phe Gly Ala Ser Leu Gln Val Gly Asp Ser Leu Leu Glu  
1 5 10 15

Thr Ser Cys Gly Ser Pro His Tyr Ala Cys Pro Glu Arg Val Ile Arg  
20 25 30

<210> 90

<211> 25

<212> PRT

<213> Homo sapiens

<400> 90

Ser Leu Gln Val Gly Asp Ser Leu Leu Glu Thr Ser Cys Gly Ser Pro  
1 5 10 15

His Tyr Ala Cys Pro Glu Val Ile Arg  
20 25

<210> 91

<211> 20

<212> PRT

<213> Homo sapiens

<400> 91

SEQ LIST.txt

Phe Leu Gln Thr Phe Cys Gly Ser Pro Leu Tyr Ala Ser Pro Glu Ile  
1 5 10 15

Val Asn Gly Lys  
20

<210> 92  
<211> 19  
<212> PRT  
<213> Homo sapiens

<400> 92

Leu Asp Thr Phe Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu Leu Phe  
1 5 10 15

Gln Gly Lys

<210> 93  
<211> 25  
<212> PRT  
<213> Homo sapiens

<400> 93

Gly Asn Lys Asp Tyr His Leu Gln Thr Cys Cys Gly Ser Leu Ala Tyr  
1 5 10 15

Ala Ala Pro Glu Leu Ile Gln Cys Lys  
20 25

<210> 94  
<211> 329  
<212> PRT  
<213> Schizosaccharomyces pombe

<400> 94

Met Ser Phe Leu Phe Asn Lys Arg Pro Lys Ser Thr Gln Asp Val Val  
1 5 10 15

Arg Cys Leu Cys Asp Asn Leu Pro Lys Leu Glu Ile Asn Asn Asp Lys  
20 25 30

Lys Lys Ser Phe Glu Glu Val Ser Lys Cys Leu Gln Asn Leu Arg Val  
35 40 45

Ser Leu Cys Gly Thr Ala Glu Val Glu Pro Asp Ala Asp Leu Val Ser  
50 55 60

Asp Leu Ser Phe Gln Ile Tyr Gln Ser Asn Leu Pro Phe Leu Leu Val



SEQ LIST.txt

Phe Val Ile Lys Gln Ile Glu Arg Leu  
325

<210> 95  
<211> 399  
<212> PRT  
<213> Saccharomyces cerevisiae

<400> 95

Met Phe Lys Lys Tyr Lys Asn Gln Asp Leu Asp Met Ala Phe Trp Trp  
1 5 10 15

Lys Lys Asn Pro Lys Thr Pro Ser Asp Tyr Ala Arg Leu Ile Ile Glu  
20 25 30

Gln Leu Asn Lys Phe Ser Ser Pro Ser Leu Thr Gln Asp Asn Lys Arg  
35 40 45

Lys Val Gln Glu Glu Cys Thr Lys Tyr Leu Ile Gly Thr Lys His Phe  
50 55 60

Ile Val Gly Asp Thr Asp Pro His Pro Thr Pro Glu Ala Ile Asp Glu  
65 70 75 80

Leu Tyr Thr Ala Met His Arg Ala Asp Val Phe Tyr Glu Leu Leu Leu  
85 90 95

His Phe Val Asp Leu Glu Phe Glu Ala Arg Arg Glu Cys Met Leu Ile  
100 105 110

Phe Ser Ile Cys Leu Gly Tyr Ser Lys Asp Asn Lys Phe Val Thr Val  
115 120 125

Asp Tyr Leu Val Ser Gln Pro Lys Thr Ile Ser Leu Met Leu Arg Thr  
130 135 140

Ala Glu Val Ala Leu Gln Gln Lys Gly Cys Gln Asp Ile Phe Leu Thr  
145 150 155 160

Val Gly Asn Met Ile Ile Glu Cys Ile Lys Tyr Glu Gln Leu Cys Arg  
165 170 175

Ile Ile Leu Lys Asp Pro Gln Leu Trp Lys Phe Phe Glu Phe Ala Lys  
180 185 190

Leu Gly Asn Phe Glu Ile Ser Thr Glu Ser Leu Gln Ile Leu Ser Ala  
195 200 205

SEQ LIST.txt

Ala Phe Thr Ala His Pro Lys Leu Val Ser Lys Glu Phe Phe Ser Asn  
210 215 220

Glu Ile Asn Ile Ile Arg Phe Ile Lys Cys Ile Asn Lys Leu Met Ala  
225 230 235 240

His Gly Ser Tyr Val Thr Lys Arg Gln Ser Thr Lys Leu Leu Ala Ser  
245 250 255

Leu Ile Val Ile Arg Ser Asn Asn Ala Leu Met Asn Ile Tyr Ile Asn  
260 265 270

Ser Pro Glu Asn Leu Lys Leu Ile Met Thr Leu Met Thr Asp Lys Ser  
275 280 285

Lys Asn Leu Gln Leu Glu Ala Phe Asn Val Phe Lys Val Met Val Ala  
290 295 300

Asn Pro Arg Lys Ser Lys Pro Val Phe Asp Ile Leu Val Lys Asn Arg  
305 310 315 320

Asp Lys Leu Leu Thr Tyr Phe Lys Thr Phe Gly Leu Asp Ser Gln Asp  
325 330 335

Ser Thr Phe Leu Asp Glu Arg Glu Phe Ile Val Gln Glu Ile Asp Ser  
340 345 350

Leu Pro Arg Ile Ile Ser Ser Thr Thr Glu Val Ser Asn Asn Asn Ala  
355 360 365

Ser Ser Ser Asn Val Ala Ser Ile Thr Ser Pro Ser Ser Val Met Asn  
370 375 380

Asn Gln Ser Ser Ile Leu Thr His Ser Thr Ser Pro Asp Ser Arg  
385 390 395

<210> 96

<211> 343

<212> PRT

<213> Arabidopsis thaliana

<400> 96

Met Arg Gly Leu Phe Lys Ser Lys Pro Arg Thr Pro Ala Asp Ile Val  
1 5 10

Arg Gln Thr Arg Asp Leu Leu Leu Tyr Ala Asp Arg Ser Asn Ser Phe  
20 25 30

SEQ LIST.txt

Pro Asp Leu Arg Glu Ser Lys Arg Glu Glu Lys Met Val Glu Leu Ser  
35 40 45

Lys Ser Ile Arg Asp Leu Lys Leu Ile Leu Tyr Gly Asn Ser Glu Ala  
50 55 60

Glu Pro Val Ala Glu Ala Cys Ala Gln Leu Thr Gln Glu Phe Phe Lys  
65 70 75 80

Ala Asp Thr Leu Arg Arg Leu Leu Thr Ser Leu Pro Asn Leu Asn Leu  
85 90 95

Glu Ala Arg Lys Asp Ala Thr Gln Val Val Ala Asn Leu Gln Arg Gln  
100 105 110

Gln Val Asn Ser Arg Leu Ile Ala Ala Asp Tyr Leu Glu Ser Asn Ile  
115 120 125

Asp Leu Met Asp Phe Leu Val Asp Gly Phe Glu Asn Thr Asp Met Ala  
130 135 140

Leu His Tyr Gly Thr Met Phe Arg Glu Cys Ile Arg His Gln Ile Val  
145 150 155 160

Ala Lys Tyr Val Leu Asp Ser Glu His Val Lys Lys Phe Phe Tyr Tyr  
165 170 175

Ile Gln Leu Pro Asn Phe Asp Ile Ala Ala Asp Ala Ala Ala Thr Phe  
180 185 190

Lys Glu Leu Leu Thr Arg His Lys Ser Thr Val Ala Glu Phe Leu Ile  
195 200 205

Lys Asn Glu Asp Trp Phe Phe Ala Asp Tyr Asn Ser Lys Leu Leu Glu  
210 215 220

Ser Thr Asn Tyr Ile Thr Arg Arg Gln Ala Ile Lys Leu Leu Gly Asp  
225 230 235 240

Ile Leu Leu Asp Arg Ser Asn Ser Ala Val Met Thr Lys Tyr Val Ser  
245 250 255

Ser Met Asp Asn Leu Arg Ile Leu Met Asn Leu Leu Arg Glu Ser Ser  
260 265 270

Lys Thr Ile Gln Ile Glu Ala Phe His Val Phe Lys Leu Phe Val Ala  
275 280 285

SEQ LIST.txt

Asn Gln Asn Lys Pro Ser Asp Ile Ala Asn Ile Leu Val Ala Asn Arg  
290 295 300

Asn Lys Leu Leu Arg Leu Leu Ala Asp Ile Lys Pro Asp Lys Glu Asp  
305 310 315 320

Glu Arg Phe Asp Ala Asp Lys Ala Gln Val Val Arg Glu Ile Ala Asn  
325 330 335

Leu Lys Leu Arg Glu Leu Ala  
340

<210> 97  
<211> 8  
<212> PRT  
<213> Artificial

<220>  
<223> FLAG peptide  
<400> 97

Asp Tyr Lys Asp Asp Asp Lys  
1 5

<210> 98  
<211> 15  
<212> PRT  
<213> Artificial

<220>  
<223> Bovine MBP fragment  
<400> 98

Gly His His Ala Ala Arg Thr Thr His Tyr Gly Ser Leu Pro Gln  
1 5 10 15

<210> 99  
<211> 73  
<212> DNA  
<213> Artificial

<220>  
<223> PCR primer

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ggatccgccca ccatggagca gaagctgata tctgaagagg acttgccgtt cccgtttggg  
aagtctcaca aat

60  
73

<210> 100  
<211> 34  
<212> DNA  
<213> Artificial



# SEQ LIST.txt

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	ggatccttaa gcttctgtct gagctggtct cttc	34
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<211>	78	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	PCR primer	
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	caccggatcc gccaccatgg agcagaagct gatctctgaa gaggacttgc ctttgtttag	60
	taaatacacac aaaaatcc	78
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	gagcgaatc	69
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	ggatcctcag aactcccaat cgtccacctc cagct	35
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SEQ LIST.txt

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acttcaag 68

<210> 106  
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ggatccctag aattcccagt atgagtcctt ttcac 36

<210> 107  
<211> 66  
<212> DNA  
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atgggg 66

<210> 108  
<211> 36  
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actagttcag tcctccaggt agggcactac agtcat 36

<210> 109  
<211> 14  
<212> PRT  
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<400> 109  
Cys Asp Pro Met Lys Arg Ala Thr Ile Lys Asp Ile Arg Glu  
1 5 10

<210> 110  
<211> 22  
<212> PRT

SEQ LIST.txt

<213> Homo sapiens

<400> 110

Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly  
1 5 10 15

Ser Pro Asn Arg Arg Arg  
20

<210> 111

<211> 13

<212> PRT

<213> Rattus rattus

<400> 111

Lys Phe Leu Arg Thr Ser Cys Gly Ser Pro Asn Tyr Ala  
1 5 10

<210> 112

<211> 25

<212> DNA

<213> Homo sapiens

<400> 112

actgcagccc tggagcccag gaagc

25

<210> 113

<211> 30

<212> DNA

<213> Homo sapiens

<400> 113

ctagttgagc ttgctgcaga tctccagcgc

30

<210> 114

<211> 69

<212> DNA

<213> Homo sapiens

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actagtgccca ccatgtaccc atacgatgtg ccagattacg ccgaaggggc cgccgcgcct

60

gtggcgggg

69

<210> 115

<211> 30

<212> DNA

<213> Homo sapiens

<400> 115

ctagttgagc ttgctgcaga tctccagcgc

30

<210> 116

<211> 69

SEQ LIST.txt

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actagtgccca ccatgtaccc atacgatgtg ccagattacg ccgagtcgct ggttttcgcg		60	
cggcgctcc		69	
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tcagggtgagc tttagacaga ccctcagtcg ctg		33	
<210>	118		
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gcactagtta cccatacgat gtgccagatt acgccgtcat ggcggatggc ccgag		55	
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<210>	121		
<211>	60		
<212>	DNA		
<213>	Homo sapiens		
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<210>	122		
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SEQ LIST.txt

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<213> Homo sapiens

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attatgaatt acatg                                                         75

<210> 124
<211> 41
<212> DNA
<213> Homo sapiens

<400> 124
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<210> 125
<211> 69
<212> DNA
<213> Homo sapiens

<400> 125
ccacccccac ccacccccagc acgccaata tgtgggcccc tatcggtcgg agaagacgct      60
gggcaaagg                                                                69

<210> 126
<211> 31
<212> DNA
<213> Homo sapiens

<400> 126
cgatgcagcc tctcgcggtc cctgaagcag c                                    31

<210> 127
<211> 31
<212> DNA
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<400> 127
gctgcttcag ggaccgag aggtgcac g                                         31

<210> 128
<211> 28
<212> DNA
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<400> 128
tcagggcaga ggggtcccg tgggtggcc                                         28

<210> 129
<211> 67
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SEQ LIST.txt

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caatatg		67
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<211> 76		
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<213> Homo sapiens		
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ggctctcccg	cctacc	76
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ggagccgggc	ccgcgggccg cctgctgcct ccgccgcgc cggggcccc agccgcccc	60
gtgcccgtgt	ccctgcggc cggccagccg	90
<210> 135		
<211> 41		
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<400> 140  
ggaaagtcc gcatccatt ttttatgtcc acag 34

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<210> 142  
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<212> DNA  
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SEQ LIST.txt

<212>	DNA		
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		ttgccaacgg tga	73
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SEQ LIST.txt

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39

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 <211> 15  
 <212> PRT  
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<400> 157

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<210> 158  
 <211> 23  
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<400> 158

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 1 5 10 15

Ser Pro Leu Tyr Arg Arg Arg  
 20

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 <212> PRT  
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<400> 159

Met Pro Leu Leu Phe Gly Lys Ser His Lys Ser Pro Ala Asp Val Val  
 1 5 10 15

Lys Thr Leu Arg Glu Val Leu Thr Ile Leu Asp Lys Leu Pro Pro Pro  
 20 25 30

Lys Leu Asp Lys Asp Gly Asn Ile Gln Ser Asp Lys Lys Tyr Asp Lys  
 35 40 45

Ala Leu Asp Glu Val Ser Lys Asn Val Ala Met Ile Lys Ser Phe Ile  
 50 55 60

SEQ LIST.txt

Tyr Gly Asn Asp Ser Ala Glu Pro Ser Ser Glu His Val Val Gln Val  
 65 70 75 80  
 Ala Gln Leu Ala Gln Glu Val Tyr Asn Ala Asn Ile Leu Pro Met Leu  
 85 90 95  
 Ile Lys Met Leu Pro Lys Phe Glu Phe Glu Cys Lys Lys Asp Val Gly  
 100 105 110  
 Gln Ile Phe Asn Asn Leu Leu Arg Arg Gln Ile Gly Thr Arg Ser Pro  
 115 120 125  
 Thr Val Glu Tyr Leu Gly Ala Arg Pro Glu Ile Leu Ile Gln Leu Val  
 130 135 140  
 Gln Gly Tyr Ser Val Pro Asp Ile Ala Leu Thr Cys Gly Leu Met Leu  
 145 150 155 160  
 Arg Glu Ser Ile Arg His Asp His Leu Ala Lys Ile Ile Leu Tyr Ser  
 165 170 175  
 Asp Val Phe Tyr Thr Phe Phe Leu Tyr Val Gln Ser Glu Val Phe Asp  
 180 185 190  
 Ile Ser Ser Asp Ala Phe Ser Thr Phe Lys Glu Leu Thr Thr Arg His  
 195 200 205  
 Lys Ala Ile Ile Ala Glu Phe Leu Asp Ser Asn Tyr Asp Thr Phe Phe  
 210 215 220  
 Ala Gln Tyr Gln Asn Leu Leu Asn Ser Lys Asn Tyr Val Thr Arg Arg  
 225 230 235 240  
 Gln Ser Leu Lys Leu Leu Gly Glu Leu Leu Asp Arg His Asn Phe  
 245 250 255  
 Asn Thr Met Thr Lys Tyr Ile Ser Asn Pro Asp Asn Leu Arg Leu Met  
 260 265 270  
 Met Glu Leu Leu Arg Asp Lys Ser Arg Asn Ile Gln Tyr Glu Ala Phe  
 275 280 285  
 His Val Phe Lys Val Phe Val Ala Asn Pro Asn Lys Pro Lys Pro Ile  
 290 295 300  
 Ser Asp Ile Leu Asn Arg Asn Arg Glu Lys Leu Val Glu Phe Leu Ser  
 305 310 315 320

SEQ LIST.txt

Glu Phe His Asn Asp Arg Thr Asp Asp Glu Gln Phe Asn Asp Glu Lys  
325 330 335

Ala Tyr Leu Ile Lys Gln Ile Gln Glu Met Lys Ser Ser Pro Lys Glu  
340 345 350

Ala Lys Lys Pro Lys Ser Lys Glu Asp Glu Asn Gln Glu Pro Ala Gly  
355 360 365

Pro Ser Glu Gly Pro Ser Thr Ser Gln  
370 375